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THE LANCET.

No. 4273. Vol. CLXIX. LONDON, SATURDAY, JULY 22, 1905. [Pp. 120+40.

CONTENTS.

A LECTURE on Hæmomanometry in Man. Being one of the Advanced Lectures in Physiology delivered at the University of London, by GEORGE OLIVER, M.D.Lond., F.R.C.P. Lond., &c. — *(Illustrated)* 201

THE WIGHTMAN LECTURE on Some of the Neuroses of Early Life. Delivered before the Society for the Study of Disease in Children on May 19th, 1905, by HENRY ASHBY, M.D. Lond., F.R.C.P. Lond., Lecturer on Diseases of Children, Victoria University, Manchester 207

ORIGINAL ARTICLES.

The Influence of Feeding on the Mortality of Infants. By WILLIAM J. HOWARTH, M.D., D.P.H.Vict., Medical Officer of Health, Derby, and Medical Officer to the Derby Education Authority 210

Some Remarks on Three Cases of Separation of the Descending Process of the Upper Tibial Epiphysis in Adolescents. By G. H. MAKINS, C.B., F.R.C.S. Eng., Surgeon to St. Thomas's Hospital, &c.—*(Illustrated)* ... 213

The Practical Value of Grocco's Paravertebral Triangle as a Physical Sign for the Diagnosis and Estimation of Pleural Effusions. By WM. EWART, M. D. Cantab., F.R.C.P. Lond., Senior Physician and Joint Lecturer in Medicine at St. George's Hospital; Senior Physician to the Belgrave Hospital for Children.—*(Illustrated)*..... 216

Chondrodystrophia Fœtalis or Achondroplasia. By H. M. JOSEPH, M.B., B.C. Cantab., Resident Medical Officer at the Hospital for Nervous Diseases, Maida Vale, W.—*(Illustrated)* 217

The Digestive and other Actions of Apples, Pears, Cherries, Strawberries, &c. By J. GORDON SHARP, M.D. Edin.... 218

Oral Sepsis as a Cause of Iritis. By E. KENNETH CAMPBELL, M.B. Edin., F.R.C.S. Eng., Surgeon to the Western Ophthalmic Hospital 219

CLINICAL NOTES:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

29 Years of Catheter Life. By R. HINGSTON FOX, M.D. Brux., M.R.C.P.Lond. 220

A Case of Myxœdema without Loss of Hair. By CHARLES W. CHAPMAN, M.D. Durh., M.R.C.P.Lond., Senior Physician to the National Hospital for Diseases of the Heart 220

A Case of Cut-throat. By JOHN M. BRYAN, L.R.C.P. Lond., M.R.C.S. Eng. 220

A MIRROR OF HOSPITAL PRACTICE.

ROYAL FREE HOSPITAL:
A Case of Post-orbital Aneurysm. (Under the care of Mr. James Berry) 221

BOLTON INFIRMARY:
Three Cases of Perforating Gastric Ulcer. (Under the care of Mr. R. D. Mothersole) 222

ROYAL BUCKINGHAMSHIRE HOSPITAL:
A Case of Surgical Emphysema resulting from a Fall. (Under the care of Mr. Horace Rose) 223

MEDICAL SOCIETIES.

EDINBURGH OBSTETRICAL SOCIETY:
"Axial Rotation" in its Relation to the Pelvic Generative Organs.—The Germ Content of the Uterus and Vagina during the Normal Puerperium 223

DERMATOLOGICAL SOCIETY OF LONDON:
Exhibition of Cases 224

BRITISH GYNÆCOLOGICAL SOCIETY:
Endothelioma of the Fundus Uteri.—Ventro-suspension of the Uterus for Retrodeviations.—Urethral Cyst 124

FORFARSHIRE MEDICAL ASSOCIATION:
Annual Meeting 225

REVIEWS AND NOTICES OF BOOKS.

Decennial Publications of the University of Chicago: Studies in General Physiology. By Jacques Loeb 225

The Annual Charities Register and Digest, 1905 226

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. By George Lamb, M.D. Glasg., Captain, I.M.S. 226

Lessons on Living: A Reading-book in Physiology and Hygiene. By H. Rowland Wakefield 226

Hints to Nurses on Tropical Fevers. By S. F. Pollard, Sister, Army Nursing Reserve 226

Electrical Methods in the Treatment of Affections of the Stomach and Intestines: A Practical Manual for Students and Practitioners. By George Herschell, M.D. Lond. 227

The Rôle of Modern Dietetics in the Causation of Disease. By J. Sim Wallace, M.D., D.Sc. Glasg., L.D.S.R.C.S. Eng. 227

Bristol Medico - Chirurgical Journal 227

Edinburgh Medical Journal..... 227

West London Medical Journal... 227

NEW INVENTIONS.

A Spoon-Elevator for Raising the Pelvic Floor.—*(Illustrated)* 227

An Adenoid Curette. — *(Illustrated)* 228

LEADING ARTICLES.

SMALL-POX HOSPITALS IN RURAL DISTRICTS..... 229

THE TEACHING OF HYGIENE IN INDIA 230

MEDICAL MEN IN THE ARMIES OF THE ANCIENTS 231

ANNOTATIONS.

The Shallow Well and its Water 232

The Royal Medical and Chirurgical Society of London 232

The Hygiene of the London Streets and Motor Traffic 233

Hypnotised Witnesses 233

Recurring Phlebitis of Obscure Origin 233

The Unrestricted Sale of Dangerous Drugs 234

Acetonuria in Surgical Cases ... 234

The Society of Chemical Industry 235

London's Foreign Meat supply.. 235

Medical Excursions for Students of Medicine..... 236

A Case of Angina Pectoris with Unusual Symptoms..... 236

Re-afforesting the Apennines.... 236

Convalescent Homes Association 236

LOOKING BACK.

(From THE LANCET, Saturday, July 21, 1827.)

The Respectability of the College of Surgeons, and its Usefulness in the Suppression of Quackery..... 237

THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH, 1505-1905. — *(Illustrated)* 238

PUBLIC HEALTH AND POOR LAW.

LOCAL GOVERNMENT BOARD:
Reports of Inspectors of the Medical Department of the Local Government Board... 243

VITAL STATISTICS:
Health of English Towns 244
Health of Scotch Towns..... 244
Health of Dublin 245

SPECIAL ARTICLES.

The Prevention of Epidemic Small-pox..... 241

Voyages d'Etudes Médicales.—*(Illustrated)*..... 242

Royal College of Surgeons of England 242

The Association of British Postal Medical Officers: Annual Dinner 243

The Services 245

Davos - Platz: Private Sanatoriums; Public and Popular Sanatoriums. — II. — *(Illustrated)* 250

Manchester..... 253

Wales and Western Counties Notes..... 254

Scotland 255

Ireland 256

Paris 257

Berlin 258

Notes from India 259

Australia 259

CORRESPONDENCE.

Scientific Report of the Imperial Cancer Research Fund (Mr. J. R. S. Moore, Mr. C. E. Walker)..... 246

The Principles of Heredity (Dr. C. B. Niven) 248

The Use of Phenylhydrazin in the Examination of Urine (Mr. L. C. S. Broughton) 249

Motor Signalling (Dr. T. W. Buckley) 249

The Preventive Treatment of Consumption in Australia (Sir P. Sydney Jones) 249

Freeman *v.* Apperly (Mr. E. Apperly) 249

The Influence of Fruit on the Precipitation of the Uric Acid of the Urine (Dr. William J. Smith Jerome) 249

Mount Vernon Sanatorium at Northwood (Col. Gerard Clark) 249

Pregnancy Late in Life 250

Healthy Costumes for Girls..... 264

A Nurse Inspector of Schools ... 264

The Unqualified Assistant 264

OBITUARY.

Major-Gen. Petronio Costetti ... 260

Daniel Murphy, M.B., B.Ch., B.A.O., R.U.I. 260

MEDICAL NEWS.

Children's Country Holidays Fund 225

Royal Portsmouth Hospital..... 228

Pass-lists of the Universities of London, Edinburgh, Glasgow, and Aberdeen, and Trinity College, Dublin..... 261

Royal College of Physicians of Ireland 161

Infantile Mortality 261

Society for Relief of Widows and Orphans of Medical Men.. 261

British Electro - Therapeutic Society 262

St. Bartholomew's Hospital..... 262

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics 262

House of Commons..... 262

Appointments 262

Vacancies..... 263

Births, Marriages, and Deaths... 263

Notes, Short Comments, and Answers to Correspondents ... 263

Medical Diary 265

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX.

MEDICAL AND OTHER BOOKS AND PUBLICATIONS.

COVER. Page

ADLARD & SON:—
Shaw ..... Essays on Insanity 1

BAILLIÈRE, TINDALL & COX:—
Browne & Stevenson.. Squint Occurring in Children 1
De Santi .... Malignant Disease of the Larynx..... 1
Sexton ..... Hernia 1
,, ... Descended Testis 1
Wadley .... Diseases of Women 1
Rhodes ..... Clinical Surgery..... 1
Lake ..... Diseases of the Ear 1
Macnaughton-Jones, &c... Diseases of the Ear, &c. 1
Mayo-Collier .. Mouth Breathing 1
,, ,, Chronic Progressive Deafness 1
Politzer .... Diseases of the Ear 1
Sewill ..... Dental Surgery 1

BALE, SONS & DANIELSSON:—
Moullin .... Inflammation of the Appendix 1
,, ... Treatment of Gastric Ulcer..... 1

CHURCHILL, J. & A.:—
Acland ..... Hours of Sleep at Public Schools..... 1
Snow ..... Treatise on Cancer 1
,, ... Forcible Massage 1
West ..... How to Examine the Chest..... 1

DAVIDSON & CO.:—
Grant ..... Study of Laryngoscopy 1

LAIDLER:—
Gwyn ..... X-Rays 1
Proudfoot .. Anæsthetic Difficulties 1
West ..... Granular Kidney, &c. .. 1

RIFFIN & CO.:—
West ..... Organs of Respiration.. 1

LEWIS:—
Campbell, H. Frothing, &c. 1
,, Headache 1
,, The Rest Cure 1
Martindale & Westcott .. Extra Pharmacopœia .. 1
Moullin .... Enlargement of the Prostate 1
,, ... Inflammation of the Bladder..... 1

PENTLAND, Y. J.:—
Gibson ..... Nervous Affections of the Heart..... 1
Muir & Ritchie.... Manual of Bacteriology 1

SAUNDERS & CO.:—
Saunders' Books 1

MEDICAL LIBRARIES, &c.:—
Institute of Hygiene—
The Hygienic Handbook..... 1
O'Connor Extension Co.—
Mechanical Orthopædics 15

BAILLIÈRE, TINDALL & COX:—
Barwell .... Lateral Curvature of the Spine, &c. 2
Bigg ..... Constipation 2
Stuart-Low.. Mucous Membranes 2
Thorne..... Sanshein Treatment.... 2
Vincent .... Nutrition of the Infant 2

CASSELL & CO.:—
Bland-Sutton Tumours 2
Bosanquet .. Serums, Vaccines, and Toxins 2
Bruce ..... Materia Medica, &c..... 2
Burton-Fanning .. Pulmonary Tuberculosis 2
Herman .... Diseases of Women .. 2, 3
,, ... First Lines in Midwifery 2
,, ... Difficult Labour 2
Marsh ..... Diseases of the Joints .. 2

CASSELL & CO.—(Continued). Page
Morris, H. .. Surgery of the Kidney and Ureter 3
,, .. Injuries and Diseases of Genital Organs, &c. .. 3
Whitelegge.. Hygiene &c. 3
Yeo ..... Mineral Springs, &c. .. 3

CHURCHILL, J. & A.:—
Butlin ..... Malignant Disease 3
Cripps ..... Diseases of the Rectum 3
,, ... Cancer of the Rectum... 3
Marsh ..... Clinical Lectures and Essays 3

CORNISH BROS. (BIRMINGHAM):—
Sawyer, Sir J. Practical Medicine 3
,, Insomnia, &c. 3

GREEN & SONS (EDIN.):—
MacGregor .. Pathology of the Endometrium 3

GRIFFIN & CO.:—
Barnet ..... Foods and Dietaries 7
Donald ..... Midwifery 7
Milborne .... Pharmacy, &c. 7
Humphry .. Manual of Nursing 7
Investigation of Mine Air 7
Naylor ..... Trades' Waste 7
Phillips .... Diseases of Women 7
Reid ..... Practical Sanitation 7
Stirling..... Practical Physiology .. 7
Westland.... Wife and Mother 7
Wood ..... Sanitary Engineering .. 7

KEGAN PAUL & CO.:—
Taylor ..... Diseases of the Eye 9

LEWIS:—
Lowsley..... Diseases of Women 9
Ramsay..... Cancer of the Uterus .. 9
Martindale & Westcott .. Extra Pharmacopœia .. 8

LONGMANS, GREEN & CO.:—
Goodall & Miles..... Diseases of the Anus, &c. 9

MACMILLAN & CO.:—
Brunton, Sir T. L. .... Disorders of Assimilation, Digestion, &c. . 5
,, ... Text-book of Pharmacology, &c. 5
,, ... Disorders of Digestion 5
,, ... Pharmacology &c..... 5
,, ... Materia Medica 5
,, ... Modern Therapeutics .. 5
,, ... Lectures on the Action of Medicines 5
Manual of Medicine 5
New System of Medicine..... 5
Smith ..... Differential Diagnosis.. 5
Stoneham .... Manual of Surgery 5
System of Gynæcology..... 5

MEDICAL PUBLISHING CO.:—
Lane ..... Chronic Constipation .. 9

PRACTITIONER, Ltd.:—
Clarke ..... Dislocation of the Hip.. 6

RENSHAW:—
Wood ..... Application of Trusses 9

SAUNDERS & CO.:—
Ashton's Practice of Gynæcology 8
Newbaugh's Practice..... 6

SMITH, ELDER & CO.:—
Keetley .... Orthopædic Surgery.... 6
,, ... Gastric Ulcers..... 6
,, ... Complicated Fractures 6

SPOTTISWOODE & CO.:—
Midwives Roll 1.r 1908 9

WRIGHT & CO. (BRISTOL):—
Hall .. .. Medical Examinations.. -
Medical Annual, 1905 7
Sutherland .. Dispensing Made Easy /

MEDICAL LIBRARIES, &c.:—
Behnke—Stammering 8

OFFICIAL AND GENERAL ANNOUNCEMENTS.

APPOINTMENTS VACANT:—
Aston Union 81
Bath Royal United Hospital 81
Birkenhead Borough Hospital 82
British Hospital, Buenos Ayres..... 82
Carlisle Non-provident Dispensary .. 81
Cheshire County Asylum, Macclesfield 81
Children's Hospital, Sheffield 80
Hastings &c. Leonards, and Rural Sanitary Hospital 81
Kensington Board of Guardians..... 82
Kent and Canterbury Hospital..... 80
Lancashire County Asylum, Winwick 83
Leicester Infirmary 81
Metropolitan Asylums Board 81
North Eastern Hospital for Children, Hackney road 81
North Staffordshire Infirmary and Eye Hospital 81
Poplar Hospital for Accidents 82
Ramsgate General Hospital 81
Roxburgh District Asylum, Melrose.. 81
Royal Lancaster Infirmary 81
Royal National Hospital for Consumption, Ventnor..... 80
University of Leeds 80
Victoria University of Manchester .. 80
Wellcome Dispensary, &c., Limerick..... 80
Weston-super-Mare Hospital 80
West Riding of Yorkshire 81

ASSISTANCIES, MEDICAL 87

ASYLUMS, HOMES, &c.:—
Ashwood House, Kingswinford 71
Bagshot House Hospital..... 72
Bedford House, Brighton 79
Bethel Hos. for Mental Diseases 79
Bishopstone House, Bedford..... 78
Buntingford House Retreat, Herts .. 74
Camberwell House, Peckham-road .. 78
Capel Lodge, near Folkestone 74
Clarence Lodge, Clapham-park 79
Coppice, The, Nottingham..... 73
Cotswold Sanatorium 74
Crookbury Sanatorium, Surrey..... 73
Dalrymple House, Rickmansworth .. 78
Denton Johns' Sanatorium, Parkstone 78
Doctor, Exhibition Sea 79
Dr. Rashleigh's Sanatorium, Dartmoor 74
East Anglian Sanatorium, Nayland .. 76
Enclosfield, Ashford 76
Fairford Retreat, Gloucestershire..... 78
Ferguson, Barnet 76
Flower House, Catford 72
Grove House, Church Stretton 73
Grove, The, Catton, Norwich 73
Hailey Open Air Sanatorium, Ipsden 73
Haydock Lodge, Newton-le-Willows 78
High Shot House, Twickenham 78
Hitch, Mrs., Hollington 72
Home of Good Hope, Bournemouth .. 78
Home Sanatorium, Bournemouth..... 78
H., Worcester 79
Inverurith Lodge Retreat, Collingburgh 73
Lady Superintendent, Brighton 79
Lady Superintendent, Streatham 79
Lawson, Headrach-on-Dee, Banchory 78
Leigh House, Warwick 78

ASYLUMS—(Continued). Page
London Fever Hospital 79
London Open-Air Sanatorium, Wokingham 75
Manor Valley Sanatorium, Poulton 75
Melbourne House, Leicester..... 72
Moat House, Tamworth 73
Moorcote Open-Air Sanatorium, Evercreech 74
Mortirch in Wales 74
Mordrach-upon-Mendip Sanatorium.. 74
Northlands Retreat, Wandsworth 71
Northumberland House, Finsbury-park 79
Northwoods House, Winterbourne .. 73
Norwood Sanatorium 78
No. 188, L.G., Strand..... 79
No. 220, L.G., Strand..... 79
No. 230, L.G., Strand..... 79
No. 1011, L.G., Strand 79
Ochil Hills Sanatorium, Kinross-shire 76
Overdale, Whitefield..... 72
Pen-y-Dinas, Merionethshire 74
Plympton House, South Devon 73
Rostrevor Open-Air Sanatorium, Warrenpoint..... 73
Radgwick Sanatorium, Sussex 79
Shaftesbury House, Formby 78
Springfield House Private Asylum, Bedford 71
St. Andrew's Hospital, Northampton 78
St. Luke's Hospital, E.C. 72
Shocklach, Craven-street..... 79
Stone House, Canterbury 79
Stretton House, Church Stretton 73
Sunshine, Chislehurst 79
Thundersliffe Grange, nr. Rotherham 79
Tower House, Leicester 73
Vale of Clwyd Sanatorium..... 75
Warneford Asylum, Oxford 71
West Malling-place, Kent 74
Whitmead Hill Sanatorium, Farnham 76
Wonford House, Exeter 73
Wye House, Buxton 72
Wyke House, Isleworth 73
Yarrow Convalescent Home, Broadstairs..... 73

COMPANIONS 81

FINANCIAL, &c.:—
Bicknock Bank..... 80
Equitable Reversionary Interest Soc. 80

HEALTH RESORTS, BATHS, &c.:—
Aberystwith, the Biarritz of Wales .. 77
Austrian Travel Bureau—
Tours in Austria 77
Pad Ems 77
Badenweiler 77
Bad Kissingen 77
Bad Nauheim 77
Harrogate 76
Matlock Bath 76
Moffatt Hydropathic 76
Smedley's, Matlock 77
South Devon Health and Holiday Resorts, Bishop's Tufgnton 76
Spa, Belgium 77

HOTELS:—
Barton Court Hotel, New Milton 71
Dunblane Hydro Establishment 70
Ilfracombe Hotel 71
Interlaken—Hotel de Russie 71
Montreux Hotel and Chateau, Belmont 71
Port Orotava—English Grand Hotel .. 71

HOUSE & ESTATE AGENTS:—
Bedford & Co., Wigmore-street 86
Brinsley & Son, New Bridge-street.... 86
C., Worcester 86
Dixon & Sons Lower Belgrave street 87
Doe bag Knightrider-street 86
Hampton & Sons, Pall-mall-east 86
Fuller & Fuller, Cheapside 84
Griffin Redhill..... 86
Hydro-Electric, Nicholas-lane 86
James & Son, Bournemouth 85
Kilsarcy, Folkestone 86
Ledger, Brighton 86
Marshall, Dewsbury 86
Mecking, Amercy 86
No. 206, L.G., Strand..... 86
No. 208, L.G., Strand..... 86
T., Clapham-road 86
Tonner, Eastbourne 85
CONSULTING-ROOMS:—
Knight, Frank & Rutley, Conduit-street 86
M. L. R., Coleman-street 86
No. 199, L.G., strand..... 84
No. 226, L.G., Strand..... 86
X., Southwark-street 86

LIFE & FIRE ASSURANCES:—
General Life Assurance Co. 79
National Provident Institution 79
Prudential 79

MEDICAL ACCOUNTANTS, &c.:—
Turner 86

MEDICAL AGENTS:—
Dr. Field Hall 85
Lee & Martin 84
London Medical Agency 82
Manchester Medical Agency 84
Manchester Medical, &c., Association 83
Medical Agency 85
Needes, Herbert 86
Needes, J. G. 82
Orridge 84
Peacock & Hedley 84
Professional Agency 85
Scholastic, Clerical, &c., Assoc. 83
Southern Medical Agency 86
Turner 84
Wilson & Son 83

MEDICAL SCHOOLS (LONDON):—
Charing Cross Hos. Medical School .. 80
Cooke's School of Anatomy 81
London Hospital Medical College 80
St. Mary's Hospital Medical School .. 80
West London Post-Graduate College.. 87

MEDICAL SCHOOLS (PROVINCIAL):—
Victoria University of Manchester .. 80

NURSING INSTITUTES:—
Clapton Nursing Home 70
General Nursing Association 70
Hos. for Sick Children, Gt. Ormond-st. 10
Leeds Trained Nurses' Institution 71
London Nurses' Association 71
Male and Female Nurses' Assoc. 71
Male Nurses' Association 71
Male Nurses' Co-operation..... 70
Middlesex Hos. Trained Nurses' Inst. 70
Mildmay Nursing Institute 70
National Hospital for the Paralysed, &c., Bloomsbury 71
Nurses' Co-operation, Portland-place 71
Queen Charlotte's Lying-in Hos..... 71
St. John's House 70
Temperance Male and Female Nurses' Co-operation 70
Temperance Male Nurses' Co-operation 70

OFFICIAL NOTICES:—
British Electro-Therapeutic Society.. 83
Fiske Fund Prize Essay 87
Grocers' Company's Scholarships..... 80
London Hospital Medical College 80
Medical Exhibition 87
Metropolitan Nursing Association 81
Middlesex Hospital 80
New York Post-Graduate Medical School and Hospital 87
Pathological Laboratories, Langham-place 89
Queen's Co lege Cork 87
Royal London Ophthalmic Hospital.. 80
Royal Naval Medical Examination .. 83
St. Bartholomew's Hos. and College .. 87

PARTNERSHIPS & PRACTICES:—
Field Hall, Strand 87
Hydro Liverpool 87
London Medical Agency, Strand..... 87
No. 160, L.G., Strand..... 87
No. 187, L.G., Strand..... 87
No. 191, L.G., Strand..... 87
No. 209, L.G., Strand..... 87
No. 208, L.G., Strand..... 87
No. 207, L.G., Strand..... 87
No. 212, L.G., Strand..... 87
No. 216, L.G., Strand..... 87
No. 221, L.G., Strand..... 87
No. 225, L.G., Strand..... 87
No. 234, L.G., Strand..... 87

RAILWAY & STEAMSHIP CO.'S:—
Albion S S. Co.—Norway Cruise 80
Great Eastern Railway Co.—
Liege Exhibition..... 88
New Zealand Shipping Co..... 80
Royal Mail Steam Packet Co.—Tours 80

SCHOOLS, PREPARATORY, &c.:—
Manchester Physical Training College 69

TUTORS & LECTURERS:—
Berlere 91
Fellowship 69
Gooch 69, 70
Korte 70
Knight 69
Med. Graduates' College, &c... 69
No. 85a, L.U. .. 70
Van Praagh.... 69
Weymouth 69

(For Index to Trade and Miscellaneous Advertisements see page 4).

Ashton's Practice of Gynecology

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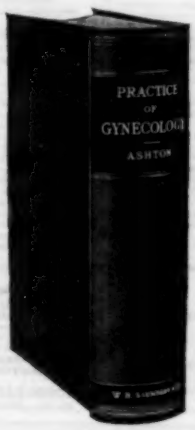

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INDEX—(CONTINUED).

TRADE AND MISCELLANEOUS ADVERTISEMENTS.

COVER.

CHEMISTS & DRUGGISTS:— PAGE
Mertens—Neurosine Prunier ... iii
Newbery & Sons—
Bromo Soda ... iv
Tonic Sumbul ... iv

FOODS:—
Fry's Malted Cocoa ... iii
Valentine's Meat Juice Co.—
Meat Juice ... ii

FURNITURE, &c.:—
Carter—Invalid Furniture ... iii

MISCELLANEOUS:—
Merryweather—Firemains, &c. ... iii

AMBULANCES:—
Electromobile Co.—
Electric Motor Ambulance ... 13
St. John Ambulance—
Invalid Carriages ... 13

BOTTLE MERCHANTS:—
Isaacs ... 13
Islington Glass Bottle Company ... 80
Kilner Brothers, Ltd. ... 80

CARRIAGES, MOTORS, &c.:—
Armstrong—
Cheshunt and Grocers' Liveries 13
Central Motor Car Co., Ltd.—
Ford Cars ... 13
Humber, Ltd.—
Motor Cars ... 13
Matthews & Son—
Medical Coupé ... 13
Star Motor Agency—
Motor Cars ... 13
W. George-street, Portman-square—
Secondhand Carriages ... 13

CHEMISTS & DRUGGISTS:—
Allen & Hanburys—
Hypo-Hypophosphites ... 29
Hyrsia ... 29
Solarol ... 29
Asaroma & Asaprin—
Hemabolets ... 29
Anglo-American Pharmaceutical Co.—
Colchi-Sal ... 87
Betol-Oil ... 87
Antikamnia Chemical Co.—
Antikamnia Tablets ... 30
Armour & Co.—
Supersomatin ... 49
" Solution ... 49
" Trituration ... 49
Battle & Co.—
Bromidia ... 31
Bentley's Liquors ... 89
Bayer & Co.—
Leicester Exhibition ... 28
Wagon Co.—Blogen & Dormagen ... 64
Brady & Martin—
Saline Infusion Apparatus ... 80
Brin's Oxygen Co.—Brin's Oxygen ... 80
British Antitoxine Manufacturing Co.—
Antitoxine ... 60
Bullock & Co.—
Pepsina Fucol ... 88
Acid Glycerine of Pepsine ... 88

CHEMISTS—(Continued). PAGE
Burgoyne, Burbidges & Co.—
Salts ... 32
Collargol ... 32
Cocaisol ... 32
Xeroform ... 32
Burroughs, Wellcome & Co.—
Kepler Malt Extract ... 40
Tabloid Redwood Iron and Rhubarb Compound ... 43
Medicine Cases ... 43
Christy & Co.—
Erycapiol ... 30
Furosanitine ... 30
Glyco-Thymoline ... 30
Lithiated Sorghum Comp. ... 30
Denver Chemical Co.—
Antiphlogistine ... 29
Dinneford's Fluid Magnesia ... 61
Duncan, Flockhart & Co.—
Chloroform ... 32
Chloryl Anæsthetic ... 30
Evans Sons Lescher & Webb, Ltd.—
Alginoid Iron ... 25
Fellows—Syr. Hypophos. Co., Fellows 64
Gilbe. Schacht & Co.—
Schacht's Fluid Pepsine ... 27
Graeff & Co.—Kidoids ... 16
Hewlett & Son—
Liq. Santal Flav. c. Buchu et Cubeba ... 34
Heyer & Co.—Hefo-Sofos ... 61
Hudson—Bismenthol Jujubes ... 19
Kirby & Co.—
Pargen ... 31
Knoll & Co.—Tannalbin ... 61
Kreuchen Co.—
Barff Soro-Glycerin ... 30
Kühn & Co.—
Papain-Fiaktor ... 29
Maw, Son & Sons—
Valyl-Bismuth ... 23
Albargin ... 31
Oxaphor ... 31
Pyramidon ... 31
Anæsthesin ... 31
Trigenin ... 31
Formin ... 31
Guiasanol ... 31
Newbery & Sons—
Pulvis Jacobi Ver. ... 61
Parke, Davis & Co.—
Digitalone ... 28
Bi-gro Arsylic ... 28
Veratrone ... 28
Leicester Exhibition ... 45
Raimes & Co.—
Slinger's Nutrient Suppositories ... 60
Salamon & Co.—Purest Chloroform ... 61
Sanmagen Co.—Sanmagen ... 45
Schimmel & Co.—Pellastic ... 60
Scott & Bowne—
Scott's Emulsion ... 21
Serravallo's Tonic ... 24
Tamar Indian Grillon ... 86
Timmermann, A. & M.—
Waltalan ... 28
Beta-Eucaine-Lactate ... 37

FILTERS:—
Defries & Son—
Lipscombe & Co.'s Apricot ... 10

FOODS:—
Allen & Hanburys—
Allenburys Milk & Cereal Diet ... 37
Aylesbury Dairy Co.—
Humanised Milk ... 40
Benger's Food, Ltd.—
Benger's Food ... 15

FOODS—(Continued). PAGE
Blatchley's Diabetic Preparations ... 62
Bourbroa & Co.—Gluten Bread, &c. ... 62
Brand & Co.—Meat Juice ... 89
Cadbury's Cocoa ... 17
Callard & Co.—
New Diabetic Foods ... 61
Calliet's Milk Chocolate ... 43
Carnrick & Co.—
Liquid Peptonoids ... 41
Clarke & Sons' Nursery Milk ... 64
Dipsothèque Tea Syndicate, Ltd.—
Phamous Tea ... 62
Fairchild Bros. & Foster—
Pancopepsa ... 33
Peptogenic Milk Powder ... 31
Frame Food Co.—Frame Food ... 47
Geidra Reform Tea Co.—
Anti-Tannin Tea ... 62
International Pharmco, Ltd.—
Pharmco ... 15
Maizen Food Co.—Maizena ... 63
Maltox Co.—Maltox ... 63
Mentié—Milo Food ... 48
Smith & Co.—Hall's Wine ... 34
Tibbles' Vi-Cocoa, Ltd.—Vi-Cocoa ... 40
Van Abbott & Sons—Gluten Flour ... 62
Virol, Ltd.—Virol ... 23
Watford & Sons—
Humanised Milk ... 19
Asses' Milk ... 19

FURNITURE, &c.:—
Allan Jones & Co.—
Emergency Tables ... 24
Hathorley Seats ... 24
Angus & Co.—Sectional Bookcase ... 19
Ward—Invalid Chairs, &c. ... 24

HOSIERS, &c.:—
Cash—
Invalid's Nightdress ... 71
Washable Maternity Binder ... 71
Samuels—Shirts and Collars ... 68

MED. & SURG. APPLIANCES:—
Bailey & Son—
Washable, &c., Trusses ... 14
Cox—X-Ray and Electro-Therapeutic Work ... 14
Hoover & Co.—
Elastic Water or Air Beds ... 10
Krohne & Sesemann—Bandages ... 9
May, Roberts & Co.—
Absorbent Tissue ... 80
Cotton Wools ... 80
Gamgee Tissue ... 80
Lint ... 80
Medicated Bandages ... 80
Millikin & Lawley—Cuticle, &c. ... 10
Pond—Arch Support Socks ... 13
Pope & Plante—
Elastic Stockings ... 66
Abdominal Supporting Belts ... 66
Robinson & Sons—Gamgee Tissue ... 11
Wood—
Eureka Crêpe Velpeau Bandages ... 13

MINERAL WATERS:—
Centreaville Pavilion ... 62
Davis—Tarasp Water ... 64
Hogg & Son—Piperazine Water ... 64
Ingram & Royle, Ltd.—
Carbonated Salts ... 86
Rawson—Bassin de Vichy ... 80
Rozinoff's Concentrated Waters ... 62

PHOTOGRAPHY:—
Martin—Developing Reliable Film ... 86

PRINTERS & ENGRAVERS:— PAGE
Cooke & Co.—
Name Plates and Lamps ... 11
Collston—
Door Plates ... 89
Heraldry, &c. ... 89

SANITARY APPLIANCES, &c.:—
Aymard Patent Milk Sterilizer Co.—
Milk Sterilizer ... 86
British Lysoform Co., Ltd.—
Lysoform ... 88
Condy's Field Works—
Condy's Crystals ... 10
Hawksley—Sterilizers, &c. ... 85
Wright, Layman & Umney—
Liquor Carbonis Detergens ... 82

STATIONERY, &c.:—
John Heath & Co.—Pens ... 64

TAILORS, BOOTMAKERS, &c.:—
Emerson Boot Store—
Emerson Boot ... 10
Evans & Co.—
Frock Coat ... 65
Cashmere Trousers ... 65
Evening Dress Suit ... 65
Flannel Suits ... 65
Holden Bros.—
Tailored-fit Bootmakers ... 10
Ho'ding & Son—Frock Coats, &c. ... 11

TOBACCO, CIGARS, &c.:—
Player's Navy Mixture ... 10

TYPEWRITING, &c.:—
Cambridge Typewriting Agency, Adelphi ... 10

VACCINE LYMPH:—
Allen & Hanburys—
Calf Lymph ... 66
Assoc. for Pure Vaccine Lymph ... 66
Hime—Glycerinated Calf Vaccine ... 66
Jenner—Institute for Calf Lymph ... 66
Rehman—
Glycerinated Pure Calf Lymph ... 65
Renner's Calf Lymph Establishment ... 66
Wyleys, Ltd.—Calf Lymph ... 66

WATCHMAKERS, &c.:—
Benson—
Imperial Plate and Cutlery ... 11

WINES, BEER, SPIRITS, &c.:—
Allsopp & Sons—
Stout and Lager ... 27
Bach & Co.—
"G. B." Diabetic Whisky ... 62
Bisaup & Sons—
Brut-Royal ... 64
Brown & Park—
Fine Vintage Brandy ... 61
Buchanan—
Special Scotch Whisky ... 62
Cameron Glen Whisky Co.—Whisky ... 64
Gentier's Liqueur Brandy ... 64
Hennessy—Three Star Brandy ... 64
Martell's Three Star Brandy ... 65
Whiteway's Devonshire Cyders ... 67

MISCELLANEOUS:—
Fox & Co., Bradford—
Crequet Set ... 89
Osborne, Garrett & Co.—
Kroyp Razor ... 11

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A Lecture
on
HÆMOMANOMETRY IN MAN.

Being one of the Advanced Lectures in Physiology delivered at the University of London

By GEORGE OLIVER, M.D. LOND., F.R.C.P. LOND., &c.

GENTLEMEN,—During the past few years physiologists as well as clinicians have displayed much activity in devising methods of sphygmometric observation in man, which, in trustworthiness, may be regarded as approximating to the manometric procedure of the laboratory. And it may, indeed, be said that they have succeeded not only in attaining this most important end but in making the suggested methods easy of application and as free as possible from errors of technique; so that their employment does not necessitate the acquirement of that skill or personal quality which can only be derived from special training or from the possession of a certain aptitude in the observer.

It is needless to enlarge on the importance of the accurate observation of the blood pressure in man, especially in our inquiries into living pathology or (as preliminary or supplementary to the hæmometric record in animals) in building up our knowledge of therapeutics, or in applying that knowledge; for that will be obvious to all. But before dealing effectually with the practical aspects of hæmomanometry we find some problems of a purely elementary nature which await solution, for our knowledge of the physiology of blood pressure in normal man is still somewhat limited, notwithstanding the good work which has been done towards its elucidation by such able investigators as Marey, Roy and Adami, Mosso, Leonard Hill, von Basch, Gärtner, Recklinghausen, Erlanger, Potain, Riva-Rocci, Gumprecht, Hensen, C. Martin, A. Martin, Stanton, Crile, O. E. Stephens, T. C. Janeway, Cook, Briggs, and others.

In physiology and medicine—founded as they are on experimental observation—advance depends mainly on the discovery of new methods. It was the introduction of the principle of the measurement of the arterial pressure by fluid compression applied to a limb which has made the study of hæmomanometry in man trustworthy and demonstrable to all observers. Almost simultaneously two experimenters (Leonard Hill and Riva-Rocci) conceived the idea of measuring blood pressure by compressing air in rubber bags encircling a limb—the effect of that compression on the arterial circulation being indicated either by the mercurial manometer (Riva-Rocci) or by an aneroid standardised by the manometer (Leonard Hill).[1] So far their procedures are identical; not so, however, their methods of reading the arterial pressure. Riva-Rocci, disregarding entirely the movements produced on the mercurial column by the arterial pulsation, takes as his indication of the arterial pressure the closure of the artery as shown by the cessation of pulsation in the radial artery; while Leonard Hill accepts the maximal oscillation of his indicator as denoting the mean arterial pressure. There have thus arisen two different modes of reading the arterial pressure founded on essentially the same procedure. The method of Riva-Rocci has been largely adopted by observers in the United States and on the Continent, while that of Leonard Hill has found most favour in this country. As the records furnished by these two modes of observation differ widely, some confusion may arise in comparing the results of clinical work on blood pressure, and as the advocates of either of these methods sometimes regard their data as more trustworthy and of greater clinical value than those of the other, it may be well to discuss anew the physiological and clinical significance of these two indications of the arterial pressure.

THE SYSTOLIC AND DIASTOLIC ARTERIAL PRESSURES.

It is generally admitted that the closure of the artery (*à la* Riva-Rocci) indicates the maximal arterial blood pressure—that moment of greatest arterial pressure produced by the ventricular systole. I think there can be no doubt as to this fact; and just lately P. Lockhart Mummery and W. Legge Symes have demonstrated in this laboratory that the Riva-Rocci sphygmometer applied to the left thigh of a dog and a mercurial manometer connected with the right femoral artery afford readings which are practically identical.[2] Now, as this is so, it follows that the maximal oscillation of the indicator, though synchronous with the systole, does not indicate the maximal blood pressure, for when it is developed the artery is far from closed and, moreover, it appears at a much lower point on the scale than does the occluding pressure.

Experimenters are by no means agreed as to the precise interpretation of the maximal oscillation in relation to the diastolic arterial pressure—whether it denotes the mean or the minimal diastolic pressure. Leonard Hill believes that the maximal oscillation of the mercurial column occurs in the animal at or about the mean arterial pressure, and in this he is supported by C. Martin, who, however, does not regard this relation as constant in man.[3] Howell and Brush, on the other hand, have demonstrated that the maximal oscillation of the mercury in experiments on dogs takes place when the arterial pressure is lowest and they consider that the mean arterial pressure corresponds fairly well with the mathematical mean between the maximum and minimum pressures.[4] It has always seemed to me that the maximal oscillation is obtained when the pressure of the pad sufficing to balance the arterial pressure which exists just before the ventricular systole (therefore the minimum arterial pressure) produces almost an intermittent collapse of the artery between the pulsations and yet allows the free onward flow of blood.[5] This fact appears to me to be proved by the following procedure. Apply two bags to the limb, using two recorders; place one on the arm and the other on the forearm; develop the maximal oscillation, when the readings of both recorders will be the same.

Disregarding the question as to whether the maximal oscillation precisely signifies the mean or the minimal diastolic pressure, we may, I think, safely view these two methods of reading the arterial pressure as differentiating it into systolic and diastolic—the arterial pressures synchronous with the systole and diastole of the ventricle; and if we take the diastolic to represent the minimum pressure and the systolic the maximum, the mean arterial pressure should be, for all practical purposes, the mathematical mean between them—e.g., $\frac{D.\ 100}{S.\ 130}$ M. 115.

DESIDERATA IN A HÆMOMANOMETER FOR PHYSIOLOGICAL AND CLINICAL OBSERVATION.

The practical and comprehensive study of blood pressure in man requires the fulfilment of the following desiderata: (*a*) The instrument should afford accurate readings of both the arterial blood pressures (systolic and diastolic) and of the venous pressure. (*b*) It should be sufficiently sensitive and adaptable to furnish trustworthy records from the peripheral as well as from intermediate portions of the arterial system; for example, from the digital (including the ungual portion of the finger), the radial, brachial, &c. (*c*) The indicator should be free from inertia and from errors due to momentum. Therefore the mercurial column should be avoided. (*d*) There should be no mechanical device such as springs, &c., to get out of order or to deteriorate. (*e*) The scale should be wide and easy to read and preferably horizontal rather than vertical. (*f*) The apparatus should be easy to manipulate and should not require any special training in technique; moreover, it should be portable and compact and possess a general adaptability to practical requirements.

A NEW FORM OF HÆMOMANOMETER.[6]

As a contribution towards the attainment of this ideal I will describe an apparatus of simple construction which I have lately employed in my inquiries. The instrument is graduated from the mercurial manometer and is fixed in a box in a horizontal position. It consists of a glass tube about 12 inches in length[7] (Fig. 1, *a*), receiving at one

[1] I believe the credit of devising this method belongs to Leonard Hill, though his results were published after those of Riva-Rocci.

[2] See Journal of Physiology, vol. xxxii., May, 1905.

[3] Brit. Med. Jour., 1905, vol. i., p. 870.

[4] Boston Medical and Surgical Journal, 1901, vol. cxlv., p. 146.

[5] See Pulse-Gauging, pp. 102, 103, 1895.

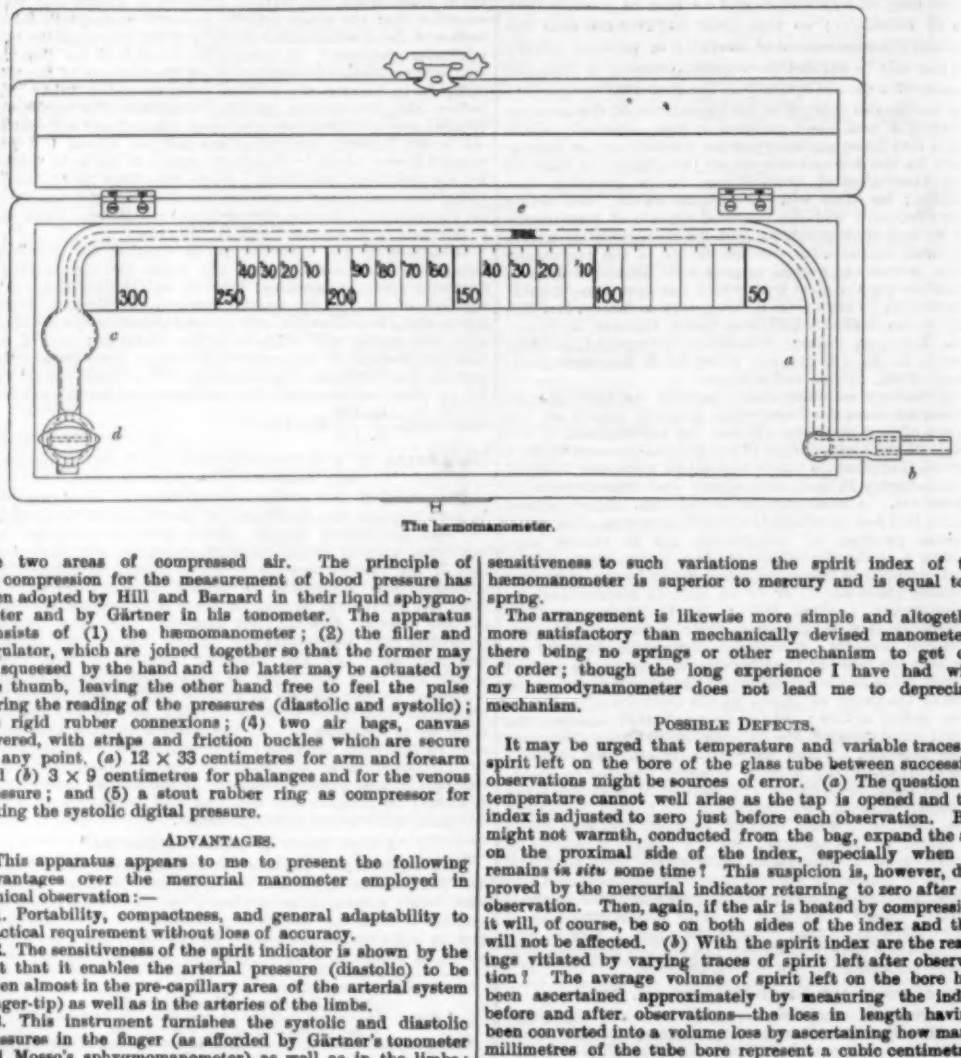
[6] This instrument was demonstrated at the meeting of the Physiological Society on June 17th, 1905.

[7] The length of the scale is determined by the capacity of the air bulb. For example, it may be extended to over 20 inches, the tube (fixed all round the inside of the box) being over 600 millimetres in length for 300 millimetres of mercury pressure.

and (*b*) the rubber tube which leads to the rubber bag encircling the part from which it is desired to take the blood pressure and terminating in an air bulb (*c*) and tap (*d*). A short column (25 millimetres in length) of absolute alcohol, coloured by Merck's fett-farben Blau (*e*), is used as the indicator. I have found that a short mercurial indicator is not sufficiently sensitive to show the diastolic pressure from the finger, but, as a rule, suffices for that from the arm and forearm, and becomes much more responsive to pulsation when conjoined with a drop of absolute alcohol. Spirit or mercury (preferably with a trace of spirit) may therefore be used as the indicator.

The principle followed is to raise the air pressure in the rubber bag and to measure it by the compression of the air in front of the index. By this simple arrangement the air within the apparatus, when the tap is closed, becomes, as it were, a portion of the compressed air inside the bag and tubing—the degree to which the compression is carried by the observer being indicated by the upper end of the short column of the coloured spirit or mercury interposed between the two areas of compressed air. The principle of air compression for the measurement of blood pressure has been adopted by Hill and Barnard in their liquid sphygmometer and by Gärtner in his tonometer. The apparatus consists of (1) the hæmomanometer; (2) the filler and regulator, which are joined together so that the former may be squeezed by the hand and the latter may be actuated by the thumb, leaving the other hand free to feel the pulse during the reading of the pressures (diastolic and systolic); (3) rigid rubber connexions; (4) two air bags, canvas covered, with straps and friction buckles which are secure at any point, (*a*) 12 × 33 centimetres for arm and forearm and (*b*) 3 × 9 centimetres for phalanges and for the venous pressure; and (5) a stout rubber ring as compressor for taking the systolic digital pressure.

FIG. 1.



The hæmomanometer.

ADVANTAGES.

This apparatus appears to me to present the following advantages over the mercurial manometer employed in clinical observation:—

1. Portability, compactness, and general adaptability to practical requirement without loss of accuracy.

2. The sensitiveness of the spirit indicator is shown by the fact that it enables the arterial pressure (diastolic) to be taken almost in the pre-capillary area of the arterial system (finger-tip) as well as in the arteries of the limbs.

3. This instrument furnishes the systolic and diastolic pressures in the finger (as afforded by Gärtner's tonometer and Mosso's sphygmomanometer) as well as in the limbs; and the venous pressure.

4. The scale being horizontal and open (instead of being vertical and contracted as in the U-shaped mercurial manometer) is read with ease and accuracy.

5. It possesses the advantage over a mercurial manometer of an absence of inertia which is practically complete. It may be a question as to whether the heavy column of the mercurial manometer, with an unequal pressure on each end of it (normal atmospheric pressure on the free end and increasing air pressure on the other), is open to errors due to momentum in the measurement of rising or falling pressures of a pulsating fluid, but no doubt can exist as to the trustworthiness of the principle of equal pressures on both sides of an index free from inertia, as in this manometer. "So heavy a liquid as mercury cannot possibly follow the rapid cardiac and respiratory variations in pressure, and it is to be emphasised that the extent of these on the manometric trace affords no measure of their actual value."[a] Hence the preference sometimes given in the laboratory to Fick's kymographion (a C-shaped spring being used instead of mercury), this instrument being more responsive to rapid variations of pressure than the mercurial manometer. In sensitiveness to such variations the spirit index of the hæmomanometer is superior to mercury and is equal to a spring.

The arrangement is likewise more simple and altogether more satisfactory than mechanically devised manometers, there being no springs or other mechanism to get out of order; though the long experience I have had with my hæmodynamometer does not lead me to depreciate mechanism.

POSSIBLE DEFECTS.

It may be urged that temperature and variable traces of spirit left on the bore of the glass tube between successive observations might be sources of error. (*a*) The question of temperature cannot well arise as the tap is opened and the index is adjusted to zero just before each observation. But might not warmth, conducted from the bag, expand the air on the proximal side of the index, especially when it remains *in situ* some time? This suspicion is, however, disproved by the mercurial indicator returning to zero after an observation. Then, again, if the air is heated by compression it will, of course, be so on both sides of the index and this will not be affected. (*b*) With the spirit index are the readings vitiated by varying traces of spirit left after observation? The average volume of spirit left on the bore has been ascertained approximately by measuring the index before and after observations—the loss in length having been converted into a volume loss by ascertaining how many millimetres of the tube bore represent a cubic centimetre.

[a] T. C. Janeway, M.D.: The Clinical Study of Blood Pressure, 1904, p. 5.

On comparing this loss in volume with the total air space to be compressed, it was found that this source of error amounts only to 0·45 per cent., which is negligible, especially as it is not easy to read smaller differences in arterial pressure than 2·5 millimetres of mercury. So far as I can ascertain, the more sensitive spirit index does not therefore introduce a practical or gaugeable error. Moreover, it has been found that after the first excursion of the index up and down the scale, subsequent ones do not reduce it, a certain average moistening of the bore preventing a further loss. It may therefore be well before making an observation, or a series of observations, to let the index slowly travel to 100 or 150 millimetres before fixing it at zero; and to drain from the bore any excess of spirit between repeated observations by tilting the box on its zero end for half a minute.

I have not yet quite decided on a standard instrument and the instrument maker has yet to settle details—as hitherto I have made my own instruments in different forms and have supplied several to friends for their criticism. It ought not to be costly to produce.

THE RELATIVE CLINICAL VALUE OF OBSERVATION MADE ON THE ARM AND FOREARM.

The arm, from its cylindrical form, even compressibility, and its single bone and artery, is anatomically well adapted to hæmomanometric observation, but these structural advantages are unfortunately counterbalanced by practical drawbacks. The procedure induces (*a*) a somewhat pronounced disturbance of the circulation of the limb (the venous outflow being arrested); and (*b*) considerable discomfort with its widespread effect on the vaso-motor system, raising the general arterial blood pressure from five to ten millimetres of mercury in proportion to the duration of compression and the sensitiveness of the subject. The latter disadvantage not infrequently engenders the practical difficulty of resentment on the part of the patient if at all sensitive or untrained to endurance of discomforts, and this objection to brachial hæmomanometry, though comparatively insignificant in male patients generally, is a substantial one with women, especially of the upper classes. Hence the practical importance of reducing the disadvantages of this easy mode of observing the arterial pressure without impairing its accuracy. With that object in view I have frequently made observations on the forearm, which are much less objected to than those on the arm, and readings so far have not differed in the two areas. The arm bag suffices for this purpose when evenly arranged in a somewhat spiral manner around the slightly tapering forearm, the radial artery being left exposed for the finger.

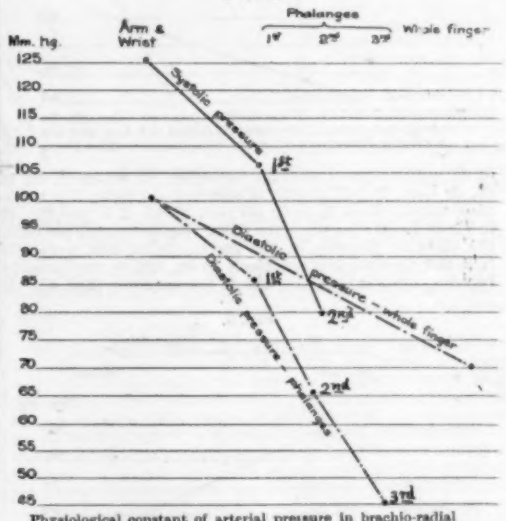
All the disadvantages just mentioned are not, however, encountered in observation on a single artery, such as the radial, ulnar, or temporal. And my experience and that of many others with the hæmodynamometer have shown that accurate readings of the diastolic pressure are furnished by this instrument, for they correspond with those of the mercurial manometer, so that observers who have acquired the necessary skill to use the hæmodynamometer may rely on its readings, and I am persuaded that their confidence in it will be strengthened by using the new manometer. Unfortunately the systolic pressure cannot be correctly furnished by any pressure gauge applied to a single artery. The new instrument, however, supplies this deficiency in the hæmodynamometer. Different structural conditions vitiate the reading of the pressure (systolic) required to close individual arteries whereas they do not interfere with the balancing of the diastolic pressure, the bore of the artery being free;[9] hence it is that the hæmodynamometer is trustworthy for determining the latter pressure only.

THE BLOOD PRESSURE IN DIFFERENT PARTS OF THE ARTERIAL SYSTEM (THE ARM, FOREARM, AND PHALANGES).

At the outset I should remark that the physiological data to which I am about to refer were derived in the first instance from my own circulation, which is normal, the digital portion of it being particularly well suited to demonstration of the distal blood pressure. After confirming them in others I have found that they furnish a trustworthy physiological standard for clinical observation.

As our knowledge of the blood pressure in the different districts of the arterial system in man is not so complete as one could wish, I will, as a contribution to it, adduce a few data showing the relation between the different pressures in the arm, forearm (upper and lower), and finger (first, second, and third phalanges). But for the purpose of this comparison it is necessary to obtain the condition of physiological rest in the circulation—as complete rest as possible; for, as will be shown in the next section of this lecture, a state of circulatory activity, as after the ingestion of food or during and following exercise, disturbs the interrelation of the different pressures. I have found in every normal subject that there are periods during the waking hours, recurring with remarkable persistency, in which we may say that there is a fair degree of uniformity in the activities of the circulation, when the arterial pressure becomes practically constant. It undoubtedly varies within certain limits in different individuals and these limits are not so close as those of temperature, but for each individual it is fairly constant in the different areas. These periods recur, as a rule, quite regularly an hour before each meal when the body is in a state of rest. I have not found any appreciable difference between the arterial pressure (systolic and diastolic) taken from the arm and that taken from the forearm (upper and lower). If the pressure is actually less at the wrist than it is in the arm the reduction is not such as I can with certainty detect. In the arm the first decided drop in the pressure is found at the first phalanx; it is generally about 15 millimetres of mercury (160 millimetres of mercury diastolic in the brachio-radial area falling to 85). The reduction rapidly increases in the second and third phalanges, 50 millimetres of mercury being, as a rule, lost in the ungual part of the finger—the diastolic pressure there being roughly a little less than half that of the brachio-radial region (see Fig. 2). These facts show that the fall in blood pressure which takes place between arteries of intermediate size and the capillaries only

FIG. 2.



Physiological constant of arterial pressure in brachio-radial (arm and wrist) and digital areas (1st, 2nd, and 3rd phalanges and the whole finger).

becomes quite appreciable in the finer divisions of the arterial system, beyond which it is extremely rapid. It was observed that the systolic pressure diminishes more rapidly than the diastolic (see Fig. 2); in a word, the two pressures approximate more and more as the terminal arteries and arterioles are approached. The low reading obtained from the last phalanx suggests that in this area we are probably approaching the arterio ar or precapillary pressure. Pressure readings from this distal part of the circulation are not, however, always equally available—as, for example, when the fingers are cold, when the pressure falls much lower with feebler pulsations. Dr. A. Waller, applying his digital sphygmograph to the finger-nail, with an air-tight connexion with a mercurial manometer, obtained an approximate pressure of only 20 millimetres of mercury and found that the pulsation was abolished by cold.[10] Probably the higher pressure which I obtain from the last

[9] See Pulse Gauging, 1895, and Blood and Blood Pressure, 1901.

[10] Brit. Med. Jour., vol. ii., 1900, p. 840.

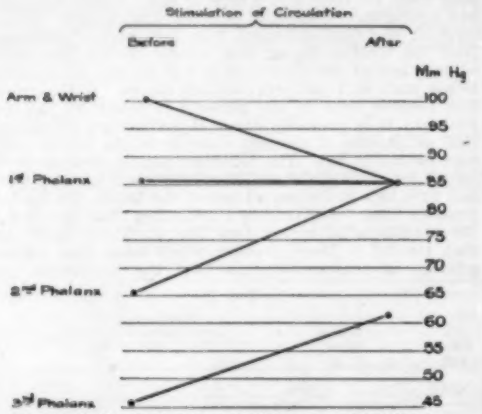
phalanx is due to the inclusion of terminal digital arteries by my finger-stall bag which are distributed outside the ungual area on which the pad of the sphygmograph rests.

THE PHYSIOLOGICAL VARIATIONS OF THE ARTERIAL PRESSURE.

I will first refer to the common features of the pressure variant due to stimulation of the circulatory mechanism, and then briefly to the variations in pressure caused by digestion, exercise, and temperature. According to my observation, when the circulation is thus stimulated, the normal relation which subsists between the intermediate and distal pressures is always altered.

In all cases, except when cold lowers the peripheral pressure, considerable rise of the diastolic pressure takes place in the most distal area—the last phalanx; the pressure

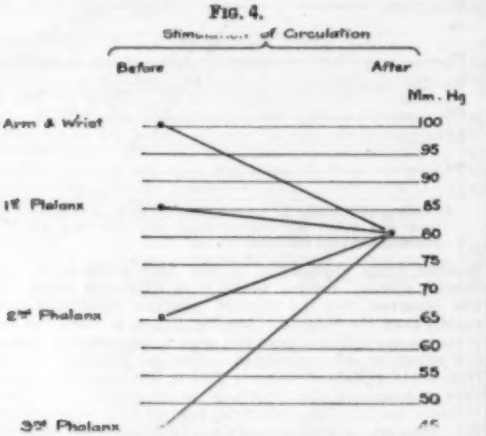
FIG. 3.



Physiological variant of the arterial pressure (diastolic) in brachio-radial (arm and wrist) and digital (1st, 2nd, and 3rd phalanges) areas when moderate vaso dilatation takes place.

of 45 millimetres of mercury becoming, for example, 60, or 65, or even 70 millimetres of mercury or more, the increment varying from 20 to 60 per cent. (Figs. 3, 4, and 5). It has been found that when the distal rise exceeds 30 per cent. the diastolic pressure in the brachio-radial area generally falls and then the pressure tends to be, and it may actually become, uniform from the arm to the finger-tip (Fig. 4). It

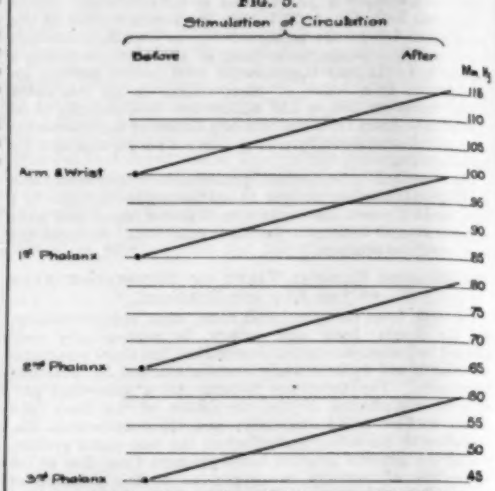
FIG. 4.



Physiological variant of the arterial pressure (diastolic) in brachio-radial (arm and wrist) and digital (1st, 2nd, and 3rd phalanges) areas when complete dilation takes place.

has frequently been found to be 80 or 85 millimetres of mercury throughout, as after exercise, exposure to heat, and under the influence of vaso-dilators—e.g., nitro-glycerine, the aromatic bodies, &c. A distal rise of 30 per cent. or less may, however, concur with a brachio-radial fall, but when it does not the diastolic pressure of the arm and forearm invariably rises and never remains stationary, as after taking small doses of vaso-contractors (Fig. 5). The invariable effect, then, of all these physiological stimuli on

FIG. 5.



Physiological variant of the arterial pressure (diastolic) in brachio-radial (arm and wrist) and digital (1st, 2nd, and 3rd phalanges) areas when moderate vaso-contraction takes place.

the arterial pressure is to produce a large relative rise in the peripheral area of the arterial system, whether the pressure in the intermediate arteries rises moderately or falls.

It is quite conceivable how this event in the distal vessels is brought about when the blood pressure falls in the intermediate arteries, for vaso-dilatation will cause the pressure to rise in the peripheral arteries, arterioles, capillaries, and veins. This increment of distal pressure will be all the more pronounced and sustained should the maximum arterial pressure, due to the ventricular contraction, be maintained or, though falling, should be relatively higher than the diastolic pressure. But when the pressure in the peripheral vessels participates in a general rise of arterial blood pressure some factor besides vaso-motor action must come into play, for contraction alone lowers the pressure in the distal vessels. Observation points to cardiac stimulation as that factor, for I have always observed that when the diastolic pressure rises throughout the arterial system (in the digital as well as in the brachio-radial area) the systolic pressure rises still more. It is therefore obvious that the lowering effect of physiological vaso-contraction on the distal blood pressure is more than compensated for by augmented ventricular contraction. Is the cardiac stimulation a reflex originating in the vaso-motor system? The two types of normal peripheral increment of blood pressure—viz., from (1) vaso-dilatation only and (2) vaso-contraction *plus* cardiac stimulation—have been followed by the arteriometer which has afforded evidence of radial dilatation in the former case and contraction in the latter.

The ingestion of food.—In the Oliver-Sharpey lectures delivered last year[11] it was shown that the ingestion of food induces a prolonged wave-like rise in the arterial pressure. These recent studies of the circulation have widened this first conception of the effects of meals on the arterial pressure; they have shown that the diastolic arterial pressure in the intermediary arteries (brachio-radial), though generally rising, frequently falls during digestion. But whether it rises or falls the peripheral arterial and the venous pressure show that the capillary pressure invariably rises. When the diastolic arterial pressure falls the systolic may likewise fall, or it may remain unchanged, or it may slightly rise; but when the diastolic pressure rises the systolic invariably rises also and to a higher degree. This varying ratio between the two pressures apparently depends on the vaso-motor tone and

[11] THE LANCET, April 30th (p. 1175) and May 7th (p. 1262), 1904.

reflex ventricular response of the individual. When both arterial pressures rise together it has generally been observed, after the digestive stimulation of the ventricle is over, that the systolic pressure falls somewhat below that observed before the meal, as if this were a reaction fall (a depressor following the pressor effect), which is also generally observed after exercise or other forms of cardiac stimulation. Probably these data throw some light on the discrepancy of results obtained by different physiologists as to the effects of digestion on the arterial pressure.

Exercise.—During moderate exercise both arterial pressures (systolic and diastolic) rise; but on continuing the exercise the systolic maintains its higher level longer than the diastolic, though they both eventually fall—the diastolic being the first to subside below normal. Exercise (even muscular tension for short periods)[12] invariably produces a hypotonic effect on the peripheral vessels, lowering the diastolic pressure in the intermediate and raising it in the distal arteries, the capillaries, and the veins (Fig. 4); and this effect is still more pronounced when the circulatory muscular fibres (centric and peripheral) are reduced in tone.[13]

Temperature.—Warmth (whether local or general) approximates the phalangeal and brachio-radial pressures, while cold produces the contrary effect.

The comparative readings of the digital and brachial pressures should be useful in pharmacological observation (experimental and therapeutical) in man, enabling us to follow the effects of vaso-dilators and vaso-contractors, and should prove to be instructive clinically. They may enable us to directly determine peripheral resistance; as when high and due to vaso-contraction beyond the physiological limit and when low and due to vaso-dilatation—the pressure in the distal phalanx, and in the middle phalanx also, reading absolutely or relatively low in the former case and absolutely high in the latter. For example, a diastolic brachial pressure of above 130 millimetres of mercury is frequently associated with a distal digital pressure of from 15 to 35 (instead of 45) and a brachial pressure of 85 may coexist with a terminal pressure of 60, 65, or 70. When vaso-contraction persists within the upper physiological limit the digital pressures remain continuously higher than normal (above 45) and the tissue lymph lodges or has but a limited variation, as in many cases of chronic goutiness. But when the contraction exceeds that limit the distal digital pressure falls below 45, and tissue lymph fails to be exuded. Digital observation of the arterial pressure alone has not, so far as I can ascertain, proved of much clinical value but when conjoined with the determination of the pressure in the intermediate arteries it should be a useful auxiliary procedure in clinical hæmomanometry.

THE RELATION BETWEEN THE CAPILLARY BLOOD PRESSURE AND THE TISSUE LYMPH CIRCULATION.

Last year I endeavoured to show that there is a demonstrable relation in man between the capillary blood pressure and the exudation and absorption of tissue lymph. The rise and fall of the capillary blood pressure were, however, a matter of inference—a probable inference, it is true—from the simultaneous fluctuations of the venous pressure. Now the data furnished by these observations appear to me to strengthen that inference; for they demonstrate that the blood pressure on the immediate proximal side of the capillaries is raised, as well as that on their distal side, whenever tissue fluid is exuded and that the pressure falls on both sides of them when that fluid ceases to be exuded or is absorbed. In a word, the evidence shows that the streamlets which feed as well as those which drain the capillary lake rise and fall together.

THE NORMAL ARTERIAL PRESSURE.

What is the normal arterial blood pressure in the average healthy subject? Observing all the elementary precautions to secure uniformity of observation—such as selecting the same area of the circulation (e.g., the brachio-radial), the proper time of day (if possible an hour or so before meals), the same posture (avoiding a lateral one), and the gravity position of heart level—it will be found that the normal arterial pressure in adults is less variable than is usually believed, a diastolic pressure of from 95 to 100 or perhaps 105 and a systolic pressure of from 105 to 130 millimetres of mercury being the figures commonly met with. A good average normal reading in a young or middle-aged adult may be taken as $\frac{95\text{–}100 \text{ diastolic}}{115\text{–}30 \text{ systolic}}$, individual variations being included in the range just indicated. When, however, the causes of physiological disturbance are disregarded a wider margin must be given for the normal variant—e.g., $\frac{80\text{–}120 \text{ diastolic}}{90\text{–}150 \text{ systolic}}$. In women the pressures are generally about 10 per cent. less than in men; in children they are as a rule near the lower, and in the elderly near the upper, normal limit.

Probably the slightly higher reading—especially of the systolic pressure—in subjects over 50 or 55 is due to advancing diminution of elasticity of the large arteries (the circulatory work being thrown more and more on to the ventricle) as well as to increased peripheral resistance. The arterial pressure does not necessarily rise with age; I have, for example, frequently met with very moderate readings in normal subjects of 75, 80, 85, and 90. When the arterial pressure touches the upper normal limit or rises above it, it responds more decidedly to physiological stimulation (e.g., from digestion, exercise, &c.) than when the pressure is lower. Hence the pressure is, as a rule, more variable in the elderly than in the young. A persistent systolic pressure of over 145 millimetres taken within an hour before a meal should be looked upon as suspicious and requiring watching, especially when the diastolic pressure is raised from 10 to 20 millimetres. In subjects of over 50 or 55 years of age such pressures should not be passed by in a routine way as normal. If possible, they should be reduced by treatment, as they are apt slowly to increase in a latent way, year by year, and then may suddenly declare themselves in cerebral hæmorrhage or may terminate in cardiac failure (dilatation, &c.).

On the other hand, it is important to distinguish between unusually low normal pressures and pressures reduced by failure in vaso-motor tone, producing splanchnic stasis. For some years I have found the effect on the arterial pressure of abdominal compression (either by the hand or by a weight, e.g., a bag containing 14 pounds of shot) useful in deciding between these two causes of low blood pressure; for in subjects of normal vaso-motor tone the abdominal compression does not raise the arterial pressure, whereas when the tone is reduced it raises it to the normal level, or even above that level. The modifying influence of temperature (the hypotonic effect of heat and the hypertonic effect of cold) on the blood pressure should be kept in mind. According to my observation, warm weather may let down the brachial pressure (systolic and diastolic) from 10 to even 20 millimetres and raise the phalangeal pressures to a corresponding degree, and cold weather may raise the former and lower the latter to a similar extent.

Before an observer can be fairly well assured as to whether the arterial pressure is raised or not, he should ascertain whether the alteration in pressure is persistent or only temporary, and should sedulously exclude nervous excitement in the subject. The latter precaution is of prime importance; on account of it nothing in medical practice requires more tact and circumspection than the reading of the arterial pressure. I suspect that some of the high readings recorded are due to temporary rises due to nervous stimulation of the heart and vaso-motor system; and it has interested me to observe how often I have proved that the arterial pressure may be impressed by the state of the nerves when neither I nor the patient suspected that influence. High readings—e.g., from 160 to 180 diastolic and 250 systolic—should be accepted with some hesitancy; and the observer should always remember that when the peripheral resistance is increased the influence of nervous excitement, however slight, becomes much more pronounced than when the peripheral outflow is normal or subnormal.

THE PHYSIOLOGICAL RELATION BETWEEN THE SYSTOLIC AND DIASTOLIC PRESSURES.

At the pressure-constant periods I have found that the difference between the pressures varies in different individuals from 10 to 15, 20, 25, 30, 35, or 40 millimetres (the average being about 25 millimetres), the smaller differences being present in subjects below middle age and especially in children and in women, and the larger after middle age and especially in elderly subjects (over 60 years). The difference is remarkably uniform in the same individual but it is much

[12] Ibid.

[13] Just lately M. C. Oddo (using Potain's sphygmomanometer) discovered a marked fall in the systolic arterial pressure after slight effort in convalescents, which he terms the "hypotension of effort." (THE LANCET, July 8th, 1905, p. 96.)

less so during pressure-variable periods. As a rule, with vaso-contraction the difference widens, and with vaso-dilatation, while the two pressures usually fall together, they tend to approximate somewhat. A certain independency is not infrequently manifested, however, in the behaviour of the systolic pressure.

THE RELATIVE CLINICAL VALUE OF THE SYSTOLIC AND DIASTOLIC PRESSURES.

The systolic pressure denotes the force of ventricular contraction and the diastolic pressure is one of our best guides in regard to the peripheral outflow—its freedom or otherwise. Therefore the specific indication of one pressure (systolic) is centric and that of the other is distal. Just now, it seems to me, there is a disposition to exalt somewhat unduly the clinical importance of the systolic pressure and proportionately to depreciate that of the diastolic, and sometimes the teaching would have us to disregard entirely the reading of the latter. Doubtless the comparative ease with which the systolic pressure can be read and the supposed greater uniformity of it have largely contributed to this attitude, which has been further prompted by the recent employment of this facile method of gauging the blood pressure while the patient is submitted to surgical procedures under anæsthetics.[14] But in medicine we cannot surely afford to discard the reading of the diastolic pressure, for the variations in peripheral resistance are of as great significance to the physician as are those of the cardiac centre. Long and well-attested experience teaches us that the reading of the diastolic pressure affords us valuable aid in judging of the state of the vaso-motor system and of the peripheral vessels and in suggesting lines of treatment. Moreover, that experience likewise teaches us that the persistent raising of the diastolic pressure increases enormously the continuous strain on the arterial wall and the heart, by reducing more and more their normal diastolic rest; thus favouring the development of all the consequents of that strain. A high systolic pressure is surely robbed of much of its power to injure the arterial wall when the diastolic pressure is low, as in aortic regurgitation, and when the peripheral circulation is open and free, as during exercise. Hence the trite remark of Sir Samuel Wilks: "I was quite of opinion that apoplexy or cerebral hæmorrhage occurred more frequently when the patient was quiet at home rather than when out of doors, employed at his avocation. ..... When we consider the number of persons engaged in their ordinary avocations who are the subjects of various diseases of the heart, of aneurysm, and decay of the blood vessels, ever threatening rupture, we might imagine they were exposing themselves to the dangers which would lead to the final catastrophe; but this is not the case, for it is generally when they are quiet at home that these events mostly happen."[15] We are too apt to forget that in muscular action the strain on the arterial system is relieved by the rapid transfer of blood through the open periphery of the circulation which it induces and that it thus provides a safe and natural outlet of the arterial pressure when unduly raised. Therefore it seems to me that in medical cases both readings of the arterial pressure, diastolic as well as systolic, are of at least equal importance and should be taken together.

THE CONTROL OF BLOOD PRESSURE BY PHYSIOLOGICAL PROCEDURES AND PRODUCTS.

One of the least encouraging aspects of the study of hæmomanometry is our limited power of controlling blood pressure by ordinary remedies. Vaso-tonics are useful enough as adjuncts to the more important means of improving the general health and the vaso-motor and muscle tone. But our depressor remedies, such as potassium iodide, salicylates, nitro-glycerine, &c., are somewhat disappointing when continued for some time. It is true they are often most useful in tiding our patients over threatening periods of intermittent increments of arterial pressure or in securing for a time some degree of diastolic rest to the heart and arteries when the pressure is persistently high, but their effect is temporary and they cannot well be persisted in for lengthened periods without impairing the health. Hence it is that during the last few years the profession has turned to physiology for aid in controlling the blood pressure more effectually and more enduringly than can be secured by drugs. We are practising the movement cures and allied physiological methods for modulating the blood pressure. And the results have not been disappointing. It is well known that muscular movement (whether active or passive) signifies transference of blood to the muscles and that the blood-vessels richly distributed through the muscles are capable of holding a large portion of the blood of the body. From these two facts it is easy to conceive how considerable is the power which the muscles possess over the arterial blood pressure. I just now pointed out to you that the various physiological stimuli (and among them muscular action is the most powerful) call into play a mechanism by which blood is transferred from the more central to the peripheral parts of the circulation—in a word, from the apex to the base of the triangle, which figures to us the bed of the circulation. This is the physiological explanation of all our movement cures. All these therapeutic methods (massage, regulated and resisted exercises, tension exercises, electric excitation of muscles, passive movements, &c.), with or without the valuable adjunct of temperature in the form of bathing, go far beyond any drugs in restoring the beautiful mechanism by which in all healthy subjects blood is rhythmically flushed through the periphery of the circulation where all the metabolic commerce of the body is transacted, the arteries and veins being mere conduits. But may we not go further than this? Some observations (physiological and clinical) during the past two years have encouraged me to hope that the continuous administration of certain physiological products may afford more effectual control over the arterial blood pressure than by other means. Among the moderators of that pressure the members of the benzoic or aromatic series (such as hippurates, benzoates, cinnamates, coumarates, &c., and their derivates) have more particularly interested me. The blood pressure (diastolic and systolic) in the intermediate and large arteries and in the ventricle is raised so long as the base of the arterial triangle is narrowed and can only be lowered by enlarging that base. Hence it is that vaso-dilators first let down the diastolic pressure and then the systolic. My observations lead me to believe that in the aromatic group of bodies will be found some persistent vaso-dilators which may be taken for lengthened periods without impairment of their dilating property and without harm to the body—that class of remedy which the physician regards as ideal for the effectual control of hypertension of the peripheral arteries. The allied oxybenzoic series, to which salicylic acid belongs, also contains members which should be investigated from the blood pressure point of view. My experiments in this laboratory are in progress and I trust later to have obtained sufficiently corroborative evidence from animals in support of my observations on man.

The aromatic bodies are widely distributed throughout the vegetable kingdom; and we know that a vegetarian diet favours the lowering of the arterial pressure. It is just possible that this effect of vegetables—especially green vegetables—largely depends on the presence of these substances; if so, may it not be possible to secure the advantages of a vegetarian diet on the circulation by prescribing small doses of members of the aromatic series, while a more generous supply of nourishment may be permitted than can be obtained from vegetables only? This study of the blood pressure in man suggests that clinical hæmomanometry should be perused on more comprehensive lines than hitherto; for it is obvious that when all the available pressures (intermediate and distal, arterial and venous) are taken the data obtained are more likely to be consistent and trustworthy than when observation is made on one particular area—e.g., brachial or digital.

[Dr. Oliver demonstrated the use of the hæmomanometer at the close of the lecture. He showed how the instrument should be used as a companion to the finger in gauging the pulse and the blood pressure, the arterial pressure (diastolic and systolic) being taken from the arm, forearm, thigh, leg, and the phalanges (first, second, and third) and the venous pressure from the hand, &c., at the same time pointing out the various precautions to be observed. He also indicated a simple and time-saving method by which the diastolic pressure may be correctly taken by the instrument without circular compression of the limb. These and other practical details will appear in the reprint of this lecture.]

[14] Mr. J. P. L. Mummery's recent Hunterian Lectures (THE LANCET, March 18th (p. 666) and 25th (p. 776), and April 1st (p. 846), 1905) show how valuable manometric observation of the blood pressure may be in surgical work.

[15] Brit. Med. Jour., vol. i., 1905, p. 968.

The Wightman Lecture

ON

SOME OF THE NEUROSES OF EARLY LIFE.

Delivered before the Society for the Study of Disease in Children on May 19th, 1905.

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MR. PRESIDENT AND GENTLEMEN,—In these days of lectures and addresses, to say nothing of the intense activity displayed in all departments of medicine, it is not easy for a lecturer to find an untrodden path or feel that he can add anything to the common stock of knowledge. I must crave your indulgence if—in delivering the address which your council in its goodness has imposed on me—I traverse some rather open and well-known ground.

Important contributions to our knowledge of the neuroses of early life have been made in this country by such well-known observers as Gee, Warner, Shuttleworth, John Thomson, Still, and many others; while in the allied domain of social psychology the names of Romanes, Sully, and Mark Baldwin will at once suggest themselves. To all these writers I must express my deep indebtedness. It is not easy to define the limits of a neurosis; but the task which I have set before myself to-day is to speak of the functional disorders due to a failure of coördination or a backward development of the lower nerve centres and of the minor mental abnormalities occurring during early life due to a lack of inhibition or a morbid sensitiveness of the higher level centres. It need hardly be said that I am not attempting to cover the whole ground occupied by the neuroses and psychoses of early life, for to sum up all the moods and tempers of the twentieth-century child would require a volume. I must be content to pass in review only a few and perhaps be deemed guilty of omitting some of the most important.

There is some difficulty attending the use of the term "functional disorder"; what one may call a "functional disorder" or "neurosis," another with good cause may say "what you call a 'neurosis' is only an exaggeration of what is seen in every child when over-excited, or tired, or in ill-health." Or, on the other hand, a neurosis such as eclampsia may be due to some organic change in the nerve cells or some focal lesion. I must risk such criticism, bearing in mind that there are no hard lines in the classification of disease and great comfort in taking refuge in the word "borderland."

Since Darwin, "variation" has been looked upon as one of the broadest facts of biology; differences of disposition, temperament, and character are met with in members of every family. It is, however, I think, a matter of common experience that neurotic parents have neurotic children. Heredity does not necessarily show itself in fully developed disease at birth or in every member of a family; an imbecile woman does not necessarily bring forth an acephalic fœtus or an epileptic or insane father an imbecile. There is, however, a strong probability that if a family results from the union of neurotics or degenerates some members of that family will show a tendency to unstable nerve centres or mental feebleness. There is no strain through the generations so strong and persistent as the tendency to unstable nerves and mental degeneration. In nature the weakly and unstable are weeded out before they have the chance of breeding. In our highly organised and philanthropic civilisation the weaklings and neurotics are tided over their infancy by thousands and preserved till manhood. Social conditions rather than natural laws regulate the union of the sexes.

Are we more neurotic than our forefathers who followed the tail of the plough and lived upon the produce of their land? Have not the unrest and excitement of these later days told not only upon men and women but also on their offspring? In our large cities we are beginning to discover a large accumulation of "by-products" or "*Nebenconsequenzen*" in the shape of the criminal, the pauper, the epileptic, the imbecile, and the insane, with the prospect at no distant date, as several writers have pointed out, of one half of the population having to nurse, to cherish, and to support the other half. The individual born to-day repeats the gains of former generations, the individual gains becoming race gains; but is it not equally true that in the long run individual degeneration becomes race degeneration? The fertilised ovum has implanted on it not only the characteristics of races, families, and individuals, but it has been modified by climate, nutrition, education, and toxins. It is "the heir of all the ages in the foremost files of time." Well did the Egyptian write over the Temple of Isis: "I am whatsoever has been, whatsoever is, and whatsoever shall be, and the veil on my face no mortal hand has ever raised." In addition to inherited tendencies there is the influence of nutrition and environment during the period of intra-uterine life. During the period when nerve and nerve cell are being shaped out of germinal plasm the progress of development cannot be indifferent to surroundings.

What are the essential features or characteristics of a neurosis or psychosis in a child? In attempting to answer this question we must bear in mind both age and state of health. What may be normal in a child two or three years of age may be very abnormal in a child ten years of age. Then ill-health, over-indulgence, and bad home influence are very apt to bring out the unlovable and "seamy" side of child life. Among the characteristics we may note: 1. Want of coördination in muscular movements both reflex and voluntary. 2. Hyperæsthesia of motor and sensory centres; a slight stimulus provokes a strong reaction out of all proportion to its strength. 3. Failure of inhibitory control over actions or reflex movements. 4. Exaggerated conscientiousness and contrariness. 5. Certain morbid habits not seen in normal children. 6. Tendency to *petit mal* and hysterical attacks. That there is overlapping in these characters is certain, but overlapping is not easily avoided.

In coming to close quarters with the neuroses of early life let me first of all refer to some of those that are very early in evidence and which perhaps depend upon developmental causes. The respiratory centres and also the deglutition centre must be in a condition of functional activity if life is to be maintained, but at times we find that the muscular movements which depend upon these centres are not perfectly performed. The movements depend upon muscle stimulations and inhibitions, which must take place in orderly and regular manner: there must be perfect timing or else there is a hitch. Presumably the movements are controlled by a superintending coördinating centre which is in charge. In congenital stridor there is apparently a failure of inhibition or an active stimulation of the adductors of the cords and the expiratory muscles during inspiration, which is most in evidence during excitement or crying. The cords are more or less approximated during inspiration and stridor results. As the infant grows older the stridulous sound is less and perhaps is only present when deep inspirations are taken as in crying. As a rule infants who are thus affected are perfectly healthy and normal in other ways and the stridor disappears during the second year or before. Infantile stridor is, however, in some cases associated with other defects. In one of my cases the infant had very marked stridor and also a posterior meningocele. Death occurred at five weeks of age during a severe spasm. At the post-mortem examination the naso-pharynx and larynx were perfectly normal. In another case stridor was noticed at birth and later it became clear that the infant had also cerebral diplegia and mental defect. The child had a habit of letting off superfluous energy when excited by forcible inspirations and expirations accompanied by loud stridor. She is now 12 years of age and still has the same habit of forced respirations when she meets a stranger, but years ago the stridor ceased. In another case, that of a boy ten months old, there is marked stridor at times which has been present from birth; this infant has an older brother who suffers from diplegia and athetosis. In both these cases of diplegia I believe the cause was developmental and not due to a lesion at birth. It is no doubt true that in some cases nasal obstruction may give rise to stridor or snoring as suggested by Dr. Eustace Smith, but I think, and, indeed, there is post-mortem evidence to show, that the association is not a necessary one. Excitement and very likely also bronchial and laryngeal catarrh accentuate the stridor.

Deglutition is sometimes performed with difficulty in newly born infants and in young children. Any nasal obstruction—such, for instance, as is present in congenital syphilis—will render swallowing difficult but in other cases there is nothing to explain the difficulty except a failure of

coördination. It is not always well marked in breast-fed infants as they cannot draw much into the mouth at a time but mothers will notice the delay in swallowing. The difficulty is most marked when bottle-fed and when the infant is in a great hurry for his food. There are choking and spluttering unless the act of swallowing is performed slowly and with great deliberation. The fluid is "gargled" in the throat instead of being swallowed but there is no necessary return of fluids through the nose as in paresis of the soft palate. Feeding with a bottle is often so troublesome that a teaspoon is resorted to and the mother very soon gives the infant sops. One girl I have watched is now three years old and still has much difficulty with fluids, especially when thirsty and in a hurry to quench her thirst. She has no difficulty with sops but can only get down a few tablespoonfuls of fluid in the day.

The readiness and ease with which infants vomit are well known, the vomiting reflex being always on the *qui vive* and easily excited but in some infants this is very marked. After making every allowance for overfeeding and improper food a certain class remains in which this constant vomiting is due to an over-sensitive or uncontrolled action of the vomiting centre and we can hardly do otherwise than look upon this as a neurosis. Nocturnal bed wetting in children who have long passed babyhood and who have never managed to pass a night in their lives without micturating during sleep strongly suggests a developmental failure of the controlling nerve centres which coördinate micturition. There is an uncontrolled action of the urine-expelling mechanism, or a failure to inhibit.

Head shaking and nodding are also coördination neuroses associated with purposive or instinctive movements which become confirmed into a habit. Attempts to hold up the head and to turn it from side to side or up and down in order to obtain a better view of surrounding objects begin in normal children about the third or fourth month of life. These head movements are necessarily associated with movements of the eyes. They are not voluntary movements in the strict sense, as they are not the result of a clearly pictured idea or revived memory image, but are rather "suggestion reflexes"—i.e., reflexes which come through consciousness.[1] These head-shaking movements may be noted as early as the third or fourth month with the first attempts to hold up the head and to look about, but the infant may not be brought for medical advice for some months after this. Instead of the muscles which move the head and eyes being stimulated and inhibited in a regular and orderly manner the action of the nerve centres is intermittent and produces in addition to the purposive movements constant jerky ones. The tremor becomes more marked, especially the nystagmus when the infant is intently gazing at some attractive object. Probably habit plays a prominent part in confirming the movements. As time goes on and the infant gets into better health and exercises more and more voluntary control the movements gradually cease. These movements are chiefly seen in infants and children of low vitality, and many of them are rickety in more or less degree, but I have not seen these movements in cases of severe rickets. Sometimes they occur for the first time after an illness, such as pneumonia, and in one case related to me nystagmus came on for the first time after an operation for the cure of a hernia. Apparently the stammering, which is likely to come on during the second or third year, is essentially very much on a par with head shaking and is apt to become confirmed by habit.

Another group of neuroses of the lower neurons includes such diseases as spasmodic asthma, recurring fever, recurring vomiting, and perhaps diabetes. All of these are especially apt to occur in neurotic families and give evidence of their presence early in life. The type of spasmodic asthma seen during infancy is usually Henoch's gastric type but asthma secondary to a bronchial catarrh or nasal irritation is also seen. A typical case of asthma in an infant was shown at this society a year or two ago by Dr. W. Ewart and I have recently seen one (with Dr. A. A. Mumford) in which the asthmatic attacks began at the age of eight weeks. The exciting cause appeared to be difficulty of digestion beginning with weaning. The father had suffered from spasmodic asthma as a boy and the infant's mother's brother was also an asthmatic. Between the attacks the infant was quite comfortable, while during the attacks the chest was markedly drawn in at the bases and bulged out at the apices and there was great distress from the dyspnœa. There was no evidence of enlarged thymus. In another case I saw during infancy distension of the stomach with gas preceded the attack which was relieved when the distension passed away with the dispersion of the gas. This patient is now over 20 years of age and has suffered from attacks of asthma all his life. The attacks seem to be excited by some irritation of the terminations of the vagus nerve.

Recurring fever also is apt to occur in members of a neurotic family and to commence in early life. It is well known that in neurotic children the temperature goes up from slight causes or without any apparent cause. In some cases, as is well known, these fever attacks recur again and again at intervals of a few months without being associated with any common or uncommon complaint. The boy's temperature runs up to 104° or 105° F. without any sign or symptom in the chest or elsewhere, he seems fairly comfortable and his appetite is good, the fever continues for some days or a week or more and disappears, leaving him weak and pale for awhile. No doubt in some cases the exciting causes are overfeeding and an accumulation of by-products. These cases are certainly apt to occur in neurotic families and perhaps also tuberculous families, and it is important to note that Dr. G. H. Savage has noticed some cases of mental breakdown in young adults who have suffered from these recurring attacks of high fever.

Let us pass now to some of the minor mental abnormalities of early life which are associated chiefly with the higher level centres. It is not difficult to recognise very early in life that some infants are much more easily aroused than others and are far more sensitive to impressions. All babies cry when they are hungry or have internal discomforts and, speaking generally, the crying reflex is in good order during infancy, but some infants utilise it much more than others.

We all know the neurotic infant: he is a bad sleeper, he is awake half the night, he wants a lot of rocking or walking about, the slightest noise or discomfort awakes him. He is very apt in consequence to be over-fed, as he has no compunction in making his wants known, and gaseous distension of the abdomen and colic aggravate his normally hyperæsthetic disposition. He is early subject to fear, has an exaggerated dread of falling, and starts and clings to his nurse if swayed about. Many of these infants, as I have already said, are troublesome vomiters. Excitement of any sort may start the vomiting reflex. One small girl I knew used to suffer from nausea when the bells of a church close by began to ring for evening service. When about two years old she used to say "Church bells make baby sick," and at times she not only had nausea but vomited. In later years she suffered from attacks of migraine and hysterical half-blindness. She could read the first half of a two-syllable word but not the last half while the headache was present. The same class of child shows perhaps excessive timidity all through infancy and childhood. Every sudden sound makes them start, whether it is the rattle of a spoon or the barking of a dog. At the sight of a stranger or an animal they will turn white and cover up their faces. They have a perfect horror of being stared at and find refuge in a prolonged cry. They dread the sight of the medical attendant who probably reciprocates their feelings. As the child becomes older the timidity becomes a perfect nightmare. They are always seeing uncanny things and have an unwavering belief in ghosts and bogies. R. L. Stevenson must have been thinking of his own childhood when he wrote:

> "The shadow of the balusters, the shadow of the lamp,
> The shadow of the child that goes to bed,
> All the wicked shadows coming tramp, tramp, tramp,
> With the black night overhead."

If daylight relieves them of their fears they return with unfailing regularity with the evening. When they go to bed the room must be lighted and the door open till confidence is in part restored by the nurse coming to bed.

It is for the most part the same class of child who has dreams of the tragic sort. The child during the day has been frightened by dogs or stories about rats or has made the acquaintance of strange beasts in picture books. A marked impression has been made on the visual centres and the images come back during sleep, associated with the curtains or surroundings of the rooms. In rarer cases the hallucinations occur during the day and in the waking hours or in a well-lighted room at night before going to sleep. The child sees animals under the bed or table and will point them out

[1] See Mental Development in the Child and the Race, Mark Baldwin, p. 104.

to her mother, absolutely believing in their existence. Or she will call up her mother at night and describe ducks which she has seen in the park in the morning waddling about on the walls of the room.

In some children there is, perhaps, not only hypersensitiveness, which shows itself in bitter tears at trifling causes, but a contrariness which makes them difficult to manage. There comes a period in many children's lives when they develop a certain marked determination to disobedience and take apparently the greatest pleasure in doing the opposite to instructions. In some neurotic children this phase becomes almost unbearable. They are spoilt by their parents, who laugh at their odd ways or scold them for the same thing next day, but they generally manage to get the upper hand and to rule the household with a rod of iron.

In another class of child we find a want of control not so much over tempers but over desires and a failure in the growth of an educated conscience. The child emerging from infancy wants every toy he sees, regardless of the rights of others. But as intelligence dawns he gradually shapes his actions in harmony with his surroundings and conforms to the unwritten laws of the society in which he is reared. The child with feeble powers of control gratifies his desires without any regard to others and without any inward sense of shame and will purloin toys, money, jewellery, anything that attracts often in a clever way. Such children are often bright and clever and without a stain on their characters until it is found out that they are habitually stealing from their playmates. They will confess up to just so much as they are obliged and will explain that they cannot help it. In the worst and confirmed class of case they are moral imbeciles and amongst the worst of life's failures.

In yet another class instead of a want of controlling power there is an excessive inhibition over action and desire. These children are too good and very sensitive to reproof. They have a morbid fear of being late at school and lie awake half the night from anxiety lest they should fail to know their lesson next day. They get, perhaps, more morbid as time goes on, accuse themselves of faults never committed, surreptitiously take off marks given them at school by their teachers, are anxious to be punished for sins never committed, or to sacrifice themselves for the good of others.

What is likely to be the future of these erratic and abnormal children? Much depends, no doubt, upon heredity but who can doubt the influence on their career of environment during early life? It is certain that an over-sensitive child will ill withstand the world's buffetings and has more offended feelings in store than fall to the lot of ordinary mortals. But assuming they are carefully tended and there is no evidence of *petit mal* or anything morbid the future is hopeful enough. There is, however, always the fear that a breakdown may come after puberty or during the strain of early manhood or womanhood. In this class we are likely to find hysteria, migraine, and insanity.

The contrary boy is, on the whole, a promising boy if placed under reasonable control. As heretic and reformer he has played his part in the world's history. Some of the ablest and most successful men I know, whose only fault is a weakness for argument, I feel sure once walked through all the puddles on the highway and defied their nurse at bedtime. In those who exhibit a want of control over their desires we have the making of criminals—or shall we say successful business men?—while those with over-sensitive and exaggerated self-control may show in later years the highest forms of self-abnegation, or if they lose their mental balance are only likely to pass through religious excitement to hopeless insanity.

While an over-sensitive nervous system during early life may be accepted as a warning signal, a condition of the senses and feelings which can be described as morbid is at least suggestive of something worse. Among these morbid phenomena may be mentioned the masturbation habit and the dirt-eating habit, while a tendency to eclampsia, marked destructiveness, impulses to scratch and bite, and cruelty to animals may also, perhaps, be included among morbid habits. All through infancy, movements, whether simple reflexes or "suggestion" reflexes in which the stimulation comes through consciousness, tend to repeat themselves when accompanied by a pleasurable sensation and a habit becomes established.

The masturbation habit is not uncommon both in boys and girls as early as the sixth or seventh month of life. Apparently it takes its origin in a hyperæsthetic state of the pudendal nerves; certain instinctive movements follow which give satisfaction and a habit becomes formed. This is seemingly on a par with the teat-sucking or thumb-sucking habit. When hungry or in discomfort the thumb or dummy teat finds its way to the mouth, gives satisfaction, and distracts from the discomfort; this satisfaction is intensified by the sucking movement and a habit is formed which goes on day and night. While both habits are bad it is certain the masturbation habit is doubly so and points to a perverted state of the nervous system. The habit appears more persistent in boys than in girls but this may be, as Dr. J. Thomson has suggested to me, that mothers and nurses discover the habit in boys but not in girls. The infant will cross her legs, work them vigorously, with flexion and extension of the hips, or sit in a chair swaying to and fro till almost exhausted and the perspiration breaks out. Similar movements may go on at night when half asleep. The habit can be broken by a good nurse with a strong personality and persistence; careful attention to health is, of course, necessary. Circumcision may be necessary in boys, though in one case coming under notice masturbation began for the first time shortly after circumcision. Too much need not be made of this habit, especially during infancy, nor need we attempt to judge the morality of the infant by the standard of the older child or adult. He is, after all, only the "raw material of morality."[1]

The dirt-eating habit is another instance of a perverted morbid taste which passes into a habit and may be seen during the first year or later. In its lighter forms it is not uncommon but always uncanny. Perhaps the commonest form of pica consists in picking blankets and swallowing the wool or gnawing clothes; this, perhaps, is associated with strange tastes as regards food and a liking for nauseous medicine. As soon as the child has learned to crawl the range of his depredations becomes more extended and various queer objects are requisitioned for dietetic purposes: plaster from the walls, cinders, bits of paper, slate pencils, with perhaps a special predilection for licking the fender or the blacking off boots. Taken by itself, perhaps, dirt-eating does not mean much but as it is so frequently associated with imbecility and insanity it suggests an abnormal condition of the nervous system. In otherwise normal children the habit is gradually broken as time goes on. No doubt the tendency to imitate which all healthy children acquire and a feeling of shame at practising baby ways help in the way of reform. If, however, as the child grows older he continues to show morbid tastes as regard queer things and if this is associated with other abnormal signs or *petit mal* the future is not so hopeful. Many of these dirt-eating children are sallow and unhealthy looking, suffer from diarrhœa, and all sorts of articles which they have swallowed make their appearance in their stools.

Another habit, more or less morbid, which develops at times in neurotic infants is a trick of suddenly digging their nails into the hands or face of their nurse or anyone who picks them up. It comes too early in life to be described as viciousness; it is rather an impulse which becomes a habit, the child deriving pleasure from noticing the consternation it produces. In most cases the habit is gradually broken as the child grows older. On the other hand, children who are more or less mentally abnormal or weak retain some such habits for years. They may be really dangerous in their ways and quite unfit to play with other children and get a bad character as playmates. The same heedlessness may be shown in their treatment of dogs and other domestic animals; they seem devoid of sympathy and heedless of pain. Such children are given to the masturbation habit and not infrequently suffer from *petit mal*. Their future is none too promising.

Time will not permit of any long reference to the various forms of major and minor epilepsy which occur in children. During early life we are constantly reminded of the close relation which exists between infantile convulsions, hysteria, and the various forms of epilepsy. We see in children forms of slight fits in which there is no complete loss of consciousness, a momentary "faint," a stumbling when at play, or some coördinated movement, such as making grimaces, getting up and sitting down again, which appear at first to the parents as being only "tricks." They might pass for such were there not a temporary pallor, a dazed look, or perhaps at times a real and undoubted convulsion. These minor fits are often more or less under the control of

[1] See Studies of Childhood, Sully, p. 229.

the individual; a sharp word or a shake will ward them off. They tend to grow worse if much notice is paid to them and the child thinks that her fits are a source of interest to the family circle. They tend to cure if treated with wholesome neglect, a scolding, and cold water. There is always the fear that they may be really epileptic or drift into a condition in which epilepsy alternates with hysteria. Such attacks are closely allied to epilepsy and occur in families in which some member is undoubtedly epileptic but differ in their type from typical epilepsy inasmuch as there is no complete loss of consciousness, the movements are purposive or coördinated and they are more under the control of the will.

I am inclined to think that such attacks as I have described tend to get well and the prognosis is much better than in typical epileptic seizures. Let me make perfectly clear that the bad habits and bad ways which I have described, if occurring in otherwise normal children, need not give rise to any great anxiety if they are accepted as warning signals. If, however, they persist far longer than the period of infancy, or when there is a combination of morbid habits or there is any sign of mental feebleness, the future must be regarded as uncertain. Epileptic seizures, however slight, if associated with destructiveness or mental backwardness, are anything but reassuring symptoms as regards the future.

I have already referred to the fact that during intra-uterine life both heredity and environment help to give shape to the human organism. During infancy we have hereditary influences still in the ascendant, but in addition to these we have the added influence of personality and training. The brain trebles in weight during the first year of life and continues to increase with the body weight, and who can doubt that as the nerve centres are being perfected and the nerve paths opened up the influences brought to bear on the individual will materially help to mould the character and shape the future life. "Very early in life," to quote Baldwin, "the infant responds to suggestions of personality. As early as the second month it distinguishes its mother or nurse's touch in the dark. He learns characteristic methods of holding, taking up, patting, and adapts itself to the personal varieties. This is quite a different thing from the child's behaviour towards things which are not persons. I think this is the child's first step towards a sense of the qualities which distinguish persons."[3] The nurse puts the infant off to sleep when no one else can, soothes and quiets him when in discomfort, and appeases him when in fractious mood. During the first few months, when the infant is still in the instinctive stage, the formation of habits begins. In the dim consciousness of these early days he is a creature of habit. The infant easily falls into serviceable or bad or morbid habits. Pleasures and pains lead to motor discharges or instinctive movements, and movements once started tend to become repeated or stereotyped.

It is clear beyond doubt that the personality of the mother or nurse counts for much during the earliest months; the intelligent nurse can form good habits in feeding, care, and hygiene, and break up bad ones, when the careless nurse will absolutely fail or the weak mother utterly despair. When the infant passes into the stage of intelligence or conscious imitation, personality counts infinitely more. The child is made up of two selves, the self of habit and the self of accommodation.[4] The self of habit and hereditary tendencies is the self which dominates the weaker vessel with which he comes in contact. It is the self which he "ejects" into the younger children, the weakling nurse, and the grandmother. He shows on this side the goodness or badness of his breed and education. The accommodating self is the self that learns, that imitates, that is influenced by the stronger character around him, and which he absorbs and transfers to his habitual self. It is the business of training and education to influence the accommodating self. The child finds himself stimulated to control his impulses and his desires by conforming to the will of a stronger and greater personality.

How much of the ultimate result, whether the training and environment be good or bad, depends upon hereditary influences we all must admit. But there are few children indeed of normal intelligence that will not be gradually brought under the influence of those with whom they come in contact. Much depends upon heredity and much on parents. How many are equal to the task? I will not say hard things of the class of parent to whom the nursery is an unexplored country and who give to billiards and bridge what was meant for mankind; rather let me insist on the harm which is done by devoted parents in the direction of over-care and over-indulgence. Every intelligent parent recognises the evils of carelessness; perhaps few think of the evils wrought to the infant or child that is never allowed to lead a natural life and is protected from every wind that blows. Over-anxiety and over-care make a bad school for neurotic children for learning self-restraint and self-control. The child quickly accepts the situation that he is the centre round which all the household moves. He soon learns that he must not be allowed to cry and cry he does till he gets what he wants. With the laudable desire to give pleasure to the children and make them happy they are over-indulged in every luxury and every excitement that appeal to the emotional side of their nature. How great the harm done to the present-day neurotic child by a life of excitement no mortal man can assess. A world-wide authority in an address given the other day said: "Young people should go tired to bed and have no time for unhealthy excitement." And may I with no uncertain voice plead as a cure for the neuroses of the twentieth-century child hard work and hearty play, a simple and a healthy life.

[3] Baldwin: Loc. cit., p. 116.

[4] See Baldwin: Social and Ethical Interpretations in Mental Development, p. 34.

THE INFLUENCE OF FEEDING ON THE MORTALITY OF INFANTS.[1]

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A CONSIDERABLE amount of work has been done on the subject of infantile mortality and as a result many valuable suggestions have been made. The statistical material, however, so far as it is concerned with the method of feeding, deals chiefly with the relative proportion which deaths among hand-fed and breast-fed children bear to the total infant deaths, rather than the proportion which such deaths bear to the aggregate of children reared in each of these two ways. In the following paper an attempt has been made to obtain these more trustworthy figures for the borough of Derby. The information used for this purpose has been collected by the women inspectors and has been accumulating for some years.

Varying local conditions play an important part in causing differences in the mortality returns of different districts and to make the following statistics of value for comparative purposes it would perhaps be advisable to refer briefly to the existence of those conditions which are generally assumed as having some influence on the mortality of infants, as they exist in Derby. The town is neither markedly salubrious nor notably unhealthy. Its population is chiefly of the artisan class and numbered 115,000 at the last census. Employments are at railway works, foundries, and mills. Trade is fairly constant, without violent fluctuations, and on the whole there is less acute poverty than in most towns of the same size. The percentage of married women engaged in occupation at the census of 1901 was 9·2, as against 13·2 in England and Wales. The slums are extremely limited in extent and overcrowding is practically non-existent. The percentage of tenements with less than five rooms which were found to be overcrowded was 4·1, as against 12·0 for England and Wales and 11·8 for the aggregate county boroughs. The size of the tenements, which practically mean houses in Derby, is satisfactory, as 81·8 per cent. are of five rooms and upwards, as against 46·7 in England and Wales. The town is built on heavy retentive clay and is about 160 feet above the sea level at the market place. The levels and directions of streets are characterised by an unfortunate irregularity. There are a large number of privies and pail closets, the objectionable influences dispersed by which are lessened to some extent by the large open space which is required at the rear of all buildings. These facts indicate that the population is perhaps below the middle in the social scale but the inhabitants live under fairly average conditions.

During the year 1900 arrangements were made whereby

[1] A paper read before the Derby Medical Society on April 4th, 1905.

information of every birth registered with the local registrar was given each week to the medical officer of health. Since then an inquiry has been instituted into the manner of feeding every child so registered and the following statistics relate to the births which were registered during the three years November, 1900, to November, 1903. These were not submitted to analysis until 1904. By carefully indexing every birth it was possible to trace any dying under the age of 12 months and thus a 12 months' history was obtained of every child born in the town and not removed before the age of 12 months. The fact that no account was taken of emigrants or immigrants will not seriously disturb the results, for we may reasonably assume that among the emigrants the method of feeding the children would probably approximate the totals, and although a lessening in mortality rates would result by excluding them the comparative rates would still remain trustworthy. During the above three years 9189 births were registered. No inquiry was made in 523 instances, as they were births in houses where it was considered possible that the parents might resent inquiry. 17 deaths were observed amongst these latter children. 323 children were born, in respect to which the kind of food could have no influence in causing early death, for 85 of them were children of low vitality who died before nourishment had been given, 206 were prematurely born, and 32 were born with some congenital defect or malformation inconsistent with life. Table I. gives particulars of all these births, subdivided according to the quarter of the year in which they occurred.

before being entered as such but in investigating the subsequent deaths it was found that hand-feeding had been substituted. As the number of children in whom the feeding had been changed from breast to hand could not be ascertained all deaths occurring among such were regarded as belonging to the group among which they were originally classified and thus some deaths which ought to have been included in the mixed or hand-fed group were retained in the breast-fed group.

The mortality among hand-fed children is below the real mortality, for the obvious reason that if it were discovered at the time of the first visit that the child was being regularly hand-fed this method of feeding would not be changed, but several deaths, which perhaps ought to be classified as deaths of hand-fed children, are placed in other groups, thus lowering the mortality amongst this class, so that in comparing the mortality rates in these two divisions the comparison is entirely in favour of hand-fed children and against those breast-fed. It may therefore reasonably be assumed that an average death-rate among infants under one year of age reared naturally ought not to exceed 65 per 1000, whilst the mortality among infants reared by hand is not less than 200 per 1000.

The object of the subdivision of the births into the quarters in which they occurred was to ascertain whether the period of birth had any influence upon the chance of a child living to the age of 12 months, and to assist the elucidation of this question the rates of mortality per 1000 children born in each quarter from the chief causes of death

TABLE I.—NUMBER OF BIRTHS OCCURRING IN EACH QUARTER (NOVEMBER, 1900, to NOVEMBER, 1903) AND THE DEATHS REGISTERED AMONG THEM UNDER THE AGE OF ONE YEAR; ALSO SIMILAR PARTICULARS RELATING TO THE SAME CHILDREN DIFFERENTIATED ACCORDING TO THE METHOD OF FEEDING AND PARTICULARS OF THE CASES WHICH ARE NOT INCLUDED IN THIS LATTER DIFFERENTIATION AND THE REASONS FOR EXCLUSION.

Quarter of the year in which the birth occurred.	All births.			Breast-fed children.			Hand-fed children.			Children reared partly naturally and partly by hand.			Various.				
														Dead.			
	Total number of births.	Deaths under the age of 12 months.	Death-rate per 1000 births.	Number of children breast-fed.	Deaths under the age of 12 months.	Death-rate per 1000 children breast-fed.	Number of children hand-fed.	Deaths under the age of 12 months.	Death-rate per 1000 children hand-fed.	Number of children not wholly breast-fed or hand-fed.	Deaths under the age of 12 months.	Death-rate per 1000 children so reared.	No information, but living.	No nourishment given.	No information obtainable as to method of feeding.	Premature births.	Congenital defects and malformation.
First	2334	284	121·7	1389	94	67·7	406	72	177·4	338	32	94·7	115	25	7	47	7
Second ...	2411	323	134·0	1366	96	70·3	442	101	228·6	407	38	93·4	108	22	4	51	11
Third	2347	291	124·0	1353	89	65·8	411	82	199·6	366	43	117·5	140	19	4	47	7
Fourth ...	2097	273	130·2	1170	89	76·1	367	66	179·9	328	29	88·5	143	19	2	61	7
Total ...	9189	1171	127·5	5278	368	69·8	1626	321	197·5	1439	142	98·7	506	85	17	206	32

If the 846 children in respect to whom no investigations were made or who died under conditions impossible to be influenced by the manner of feeding are deducted from the 9189 registered births a total of 8343 children is left, and of this number 5278, or 63·3 per cent., were breast-fed; 1626, or 19·5 per cent., were hand-fed; a nearly equal number—1439, or 17·3 per cent.—were breast-fed at first and afterwards wholly hand-fed or were partly breast-fed and partly hand-fed from a very early stage of their existence.

The highest average death-rate occurred among children born in the second quarter of the year and then in order of diminishing rates in the fourth, third, and first. These death-rates, however, only represent the resultants of causes operating upon each of the three classes into which they are differentiated and on that account it will be more profitable to analyse the returns under the subheadings. The highest death-rate (197·5) is observed among the hand-fed children; it is nearly three times that recorded among breast-fed children (69·8) and it is twice that of children reared partly by hand and partly naturally (98·7). These marked differences are further accentuated by the fact that the mortality-rate among breast-fed children as here stated is in excess of the actual for this reason. The statement made at the time of visitation that the child was breast-fed was made the subject of very careful inquiry among both breast-fed and hand-fed children have been calculated. These are as follows:—

	Quarters.			
	First.	Second.	Third.	Fourth.
Bronchitis and pneumonia—				
Hand-fed	19·7	27·2	29·2	30·0
Breast-fed	13·0	14·0	14·8	16·3
Diarrhœa and zymotic enteritis—				
Hand-fed	44·4	79·2	53·6	24·6
Breast-fed	9·4	11·0	6·0	7·7
Disorders of the digestive system—				
Hand-fed	51·8	45·3	46·3	38·4
Breast-fed	15·9	15·4	9·7	14·6
Convulsions—				
Hand-fed	17·3	27·2	28·6	27·3
Breast-fed	12·3	13·2	16·3	18·8
All other diseases—				
Hand-fed	44·4	49·8	43·8	60·0
Breast-fed	17·3	16·9	19·7	18·9

Among hand-fed children it will be noticed that those born in the second quarter show the highest mortality and that there is a progressive decrease amongst those born in the third, fourth, and first quarters. The analysis of the chief contributory causes of death plainly indicates that the high mortality among hand-fed children born in the second

quarter is due to zymotic enteritis and diarrhœa. The incidence of these diseases on children born in each month has been followed and it is found that the children born in May and June, and to a less degree those born in July, were chiefly affected; and further, that although the months of July, August, and September are months of greatest prevalence, children born in August were among the least likely to suffer. The reasons for this result are probably that less care is taken in preparing the food of children after the first month, and as the resisting power of a child to attacks of zymotic enteritis is an increasing one children of the age of two or three months at the time of greatest prevalence will show greater mortality than those who are older, whilst those born during the period are probably sufficiently well cared for to materially diminish the risk. The comparatively high death-rate amongst children born in the third quarter is, in part, to be attributed to some excess of deaths from zymotic diarrhœa, for which the deaths among the children born in July are responsible, and, in part, to a high death-rate from convulsions. Amongst children born in the last quarter the death-rate from bronchitis and pneumonia is highest. This is what might be expected, seeing that the mortality from chest ailments would bear relation to the varying atmospheric conditions which are generally most trying at this period of the year.

Amongst breast-fed infants those born in the fourth quarter contribute most deaths to the general total and in diminishing degree those born in the second, third, and first quarters. There are no very great disturbing elements in any quarter among children reared naturally, yet, as among the hand-fed children, the mortality from zymotic enteritis and diarrhœa shows some variation, the highest incidence being on those born in the second quarter. It is not considerable and may possibly result from small quantities of milk being given to children to quiet them during the mother's absence or to supplement an insufficient natural supply. Chest ailments are distinctly highest among children born in the fourth quarter and this, to a great extent, accounts for the highest total mortality among this group of children.

The chief conclusion which can be drawn from the above information when each group is separately considered is that the only children exposed to exceptional risk are those reared by hand and born either during the second quarter of the year or during the first month of the third quarter.

TABLE II.—*Mortality per 1000 from Certain Diseases among Children who were Breast-fed or Hand-fed, or who were at first Breast-fed and subsequently Hand-fed (Mixed).*

—	Breast-fed.		Mixed.		Hand-fed.		All three classes.	
Number of children.	5276		1439		1626		8343	
Disease.	Number of deaths.	Death-rate per 1000.	Number of deaths.	Death-rate per 1000.	Number of deaths.	Death-rate per 1000.	Number of deaths.	Death-rate per 1000.
Bronchitis and pneumonia	76	14·4	18	12·6	43	26·5	137	16·5
Diarrhœa and epidemic enteritis...	45	8·6	31	21·6	84	51·7	160	19·2
Gastritis and gastro-enteritis	7	1·4	5	3·5	10	6·2	22	2·7
Marasmus	29	5·5	17	11·9	32	19·7	78	9·4
Atrophy and debility	37	7·1	10	7·0	32	19·7	79	9·5
Tabes mesenterica	6	1·2	1	0·7	11	6·8	18	2·2
Various abdominal tuberculoses	3	0·6	4	2·8	6	3·7	13	1·6
All other tuberculous diseases ...	9	1·8	3	2·1	5	3·1	17	2·1
Convulsions... ...	79	15·0	30	20·9	42	25·9	151	18·1
Dentition	7	1·4	7	4·9	7	4·4	21	2·6
Zymotic diseases other than diarrhœa	28	5·4	11	7·7	21	13·0	60	7·2
All other diseases	42	8·0	5	3·5	28	17·3	75	9·0
Totals	366	69·6	142	98·7	321	197·5	831	99·1

The very striking differences in the aggregate death-rates of breast-fed and hand-fed children are also to be observed when the mortality rates from different diseases are similarly compared. A reference to Table II. shows that in not one single instance does the death-rate in any class of disease among hand-fed children even approximate that recorded among children who are breast-fed; the rate is invariably considerably higher. It is not easy to associate an increase of 12 per 1000, or nearly 100 per cent., in the mortality from bronchitis and pneumonia with the manner of feeding, nor would an increase in mortality of 7·6 per 1000, which is over 100 per cent., from zymotic diseases, excluding diarrhœa, appear to be associated with a similar cause, nevertheless the statistics point to this result and the probable reason is to be found in the production of children suffering from what might be termed "lessened power of resistance" or "diminished vitality." That these conditions are not the result of marked differences in social position is shown from the following particulars relating to the house accommodation of 100 children fed naturally and by hand and taken in consecutive order from the register:—

	One or two room tenements.	Three rooms.	Houses of four rooms.	Five or more rooms.
Breast-fed	6	7	27	60
Hand-fed	2	3	13	82

If any conclusion can be drawn from these data it is rather that the hand-fed children are better housed than the breast-fed and perhaps it is justifiable to assume they are of at least equal social position. It is more probable that these enfeebled constitutions are the direct result of improper feeding, for when food constituents are not given to a child in their proper proportions, or the substances which are used are either unsuitable or are used in such a manner as regularly to render them unsuitable, it requires very little imagination to suggest the evolution of a child who will show increased sensitiveness to varying climatic conditions and diminished resistance to attacks of the commoner zymotic ailments. Diarrhœal diseases and deaths from defective nutrition are always quite truly referred to as the chief dangers to which hand-fed children are exposed, but it is quite obvious from the above figures that the numerous other diseases cannot be disregarded, since in the aggregate they form a formidable total and to this extent emphasise the argument against rearing a child by hand except in cases of absolute necessity. Next in importance to zymotic diarrhœa come chest ailments, to which reference has already been made, and then convulsions, a large proportion of which deaths are probably to be associated with disorders of digestion, whilst a large proportion of the deaths from marasmus, atrophy, and debility have their origin in the same cause.

Amongst breast-fed children the causes of death which stand out prominently from the rest are bronchitis and pneumonia and convulsions. The former, to a certain extent, depend upon exposure during early months of life, whilst overfeeding during the first six months and the irritability consequent upon dentition during the latter six months are probably the principal factors in the causation of convulsions. There is obviously room for considerable improvement in the mortality recorded among breast-fed infants, and an attempt to lessen the number of deaths from these two diseases would appear to present the most hopeful chance of success.

Amongst children who were at first breast-fed and subsequently hand-fed, a considerable diminution in the mortality as compared with hand-fed is noticeable, and although the aggregate mortality is considerably higher than that of breast-fed children there are one or two classes of disease in which the mortality is lower. This result obviously points to the advantages which accrue to children who have natural food supplemented by artificial food rather than an entire supply of the latter.

It has been an interesting portion of this inquiry to ascertain the mortality among hand-fed children in relation to the kind of food on which they have been reared. There are numerous difficulties in the way of obtaining absolutely correct information because in many cases two or more different foods have been used but the particulars given in the following table may be regarded as fairly trustworthy. It should be stated that cases in which condensed milk was used with any other food are classified under "mixed" food. With the patent foods the only supplementary food that was permitted was milk and water; any other addition brought that particular method of feeding under the heading of "mixed" food.

TABLE III.—*Showing the Death-rates recorded among Hand-fed Children according to the Kind of Food used.*

Kind of food used.	Total number fed on each food.	Deaths.	Death-rate per 1000 fed on each food.
Milk-and-water only	806	158	177
Condensed milk only	149	38	255
Bread, rusks, oatmeal, arrow-root, cornflour, sago, tapioca, and mixed foods ...	159	40	252
Patent food A	39	7	180
,, ,, B	81	17	210
,, ,, C	45	6	134
,, ,, D	93	19	204
Various patent foods	164	36	220
All patent foods...	(422)	(85)	(202)
Incomplete information... ...	1	0	0
Totals	1636	321	198

From this table it will be seen that the lowest death-rate was among children fed on patent food "C," after which children who were fed on milk-and-water survived in greatest proportion. In the aggregate the various patent foods show a death-rate of 202 per 1000, as compared with 177 for milk-and-water. The composition of these foods is interesting when considered in relation to these statistical details; it shows that very many more children survive who are brought up on malted food in which there is no starch than on such as contains unconverted starch in marked degree, whilst occupying a middle position between the two are the various foods prepared from desiccated cows' milk. Patent food "C" is a farinaceous food in which the whole of the starch has been rendered soluble. It contains no fat; this is supplied by the milk used in preparing it. Patent food "A" contains no starch and is a very fair imitation of human milk. It approximates the composition of dried human milk but is deficient in both proteids and fat. Patent food "D" contains starch which has not been predigested and although perhaps even very young children can digest a certain amount of starch it is not a suitable food before the period of dentition. It is this class of food which forms a large proportion of those classified under "Various patent foods," and, as the results show, they are much less suited for children than the other two.

Children fed on condensed milk show a very high mortality—viz., 255 deaths per 1000 of children so fed—and this is not surprising. The chief reason is, perhaps, to be found in the analyses of these milks, which are as follows:[3]—

	Proteids.	Fat.	Milk sugar.	Cane sugar.
Human milk (average) ...	1·5 ...	3·5 ...	6·5	—
Cows' milk ,, ...	3·5 ...	4·0 ...	4·5	—
Mixture (cows' milk, 2 parts; water, 1 part)	1·6 ...	2·6 ...	3·0	—
Unsweetened whole condensed milk	8·3 ...	12·4 ...	16·0	—
Mixture (unsweetened whole condensed milk, 1 part; water, 4 parts) ...	1·7 ...	2·5 ...	3·2	—
Sweetened whole condensed milk	9·7 ...	13·7 ...	15·0	37·2
Condensed separated milk	11·5 ...	2·0 ...	13·0	45·8

Unsweetened whole condensed milk if no fat has been extracted, constitutes as suitable an article as cows' milk from which to prepare food for infants, and if care is taken in sufficiently diluting it and making suitable additions no serious objection can be raised against its use, but the fact remains that for some reason or other practically none is used for feeding infants in this town. Analysis shows that to sweetened condensed milk a large amount of cane sugar is added, so that if this milk is diluted to the proportions necessary to bring the proteids and fat to the same standard as average human milk, sugar is in excessive proportion. Condensed separated milk shows almost the same percentage composition as sweetened whole condensed milk, except that the fat is reduced to 2 per cent. Such a milk is absolutely unsuited for the food of infants and its continuous use results in slow starvation of the infant. The death-rate among children reared on bread, rusks, arrowroot, and other farinaceous foods is exceedingly high, being 252 per 1000. This is only what would be expected.

A death-rate of 177 per 1000 amongst children fed on modified milk is not satisfactory. The causes may in brief be stated to be twofold—first, the results of contamination, and secondly, the results of ignorance. The index to the effects of contamination may roughly be stated to be the deaths from diarrhœa and epidemic enteritis, and from ignorance the deaths from various disorders of digestion—viz., gastritis and gastro-enteritis, marasmus and atrophy, and debility. The deaths from the former diseases total 84 and from the latter 74, but to these must be added those resulting from impaired resistance which are the direct consequence of improper feeding, and the fact should not be lost sight of that though contamination acts most disastrously during a limited period of the year, the effects of ignorance are always in operation and, in the aggregate, are probably much more serious.

A consideration of the various ways in which contamination of the milk may result and of the means by which ignorance may be combated is not within the scope of this paper, but two points do seem worthy of reference. One is that the risk of contamination of milk in the homes of the poor in towns where privy middens are a feature is a serious one and it ought to be possible to enforce proper cupboard accommodation for the storage of food. The other is that, although education of girls at school in the subjects of domestic economy and home nursing would be of the greatest value, a very great deal more can be done by instructing the young mother at home as soon as possible after the baby has made its appearance. To do this would necessitate the notification of every birth to the sanitary authority and visitation by a properly qualified person. Such information is received in this town and visits are made with, I believe, the greatest advantage to both mother and child.

The deductions which it appears justifiable to draw from the mortality observed amongst hand-fed children fed on different foods are: that the use of sweetened condensed milk, either whole or skimmed, should be invariably discouraged and whole unsweetened condensed milk should only be permitted when one is satisfied that the milk is being used with a proper degree of dilution and with the necessary additions as in the case of modified cows' milk; also that since the death-rate amongst children reared on patent foods is, on the average, higher than amongst those fed on diluted cows' milk, every attempt should be made to encourage parents to use this latter food and to educate them to an appreciation of the necessity for the additions to, and the dilution of, cows' milk to render it suitable for infant's food. The addition of patent foods to the dietary of very young infants is unnecessary, sometimes dangerous, and always expensive.

In conclusion, it is unnecessary further to emphasise the risks to which hand-fed children are exposed, but it should not be forgotten that these risks are considerably minimised by mixed feeding and that, therefore, every mother who is unable fully to satisfy her infant should be encouraged to continue to feed her child and to supplement any deficiency by means of artificial food and that only in case of absolute and unavoidable necessity should resort be had to hand-feeding alone.

Derby.

[3] Food and the Principles of Dietetics, by Dr. Robert Hutchison; and Milk and Milk Products, by Permain and Moore.

SOME REMARKS ON

THREE CASES OF SEPARATION OF THE DESCENDING PROCESS OF THE UPPER TIBIAL EPIPHYSIS IN ADOLESCENTS.

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THIS condition, although not uncommon, has only been generally recognised since the use of the x rays has become habitual in cases of bone injury or disease, although one can recall many mysterious instances of "enlargement of the tibial tubercle" in old "out-patient" experience. The following three cases illustrate growing knowledge on the subject. The first, seen in 1897, was mistaken for one of

osseous tuberculosis, while in the light of the information gained in its treatment the succeeding two were placed in their proper category.

CASE 1.—The patient, a stout, somewhat flabby boy, aged 14 years, had received a kick over the upper end of the right tibia while playing football a year previously to being seen by me. This injury was followed by severe local pain which persisted for some time and on its cessation as a continuous trouble it recurred with any severe exercise and also occasionally in the form of aching when in bed at night. After the lapse of eight months some local swelling with intermittent pain developed and three weeks before the boy came under my care tincture of iodine was applied which caused slight redness of the overlying skin. A blister was then applied and this was followed by considerable diminution of the local swelling. In November, 1897, the following condition existed. An area of local swelling about one inch in diameter lay over the outer aspect of the tibial tubercle; this was tender on palpation and a sense of deep fluctuation could be obtained. The swelling was strictly localised and there had been no pain since the application of the blister. A skiagram (Fig. 1) was taken by the late Dr. Barry Blacker.

FIG. 1.

Showing considerable displacement and atrophic appearance.

This showed some gaping of the anterior half of the main junction of the upper epiphysis of the tibia, while a sharp angle existed at the junction of the main mass and the descending beak; two small ossific deposits were seen in the cartilage of the beak itself. The interval between the beak and the upper end of the diaphysis was greatly widened and the latter was more transparent than it should be beneath the space. The prominence of the lower segment of the tubercle was well developed on the diaphysis but no separate ossific centre was visible. The case was regarded as one of local osteitis and tuberculosis being suspected an exploration was recommended and carried out. The operation revealed little; the bone of the upper end of the diaphysis was abnormally soft and a little was scraped away with a Volkmann's spoon but no sign of tuberculous deposit was discovered. The wound healed and after two months of rest the boy returned to school free from any symptoms except occasional aching pain. Violent games were forbidden for the time. Two years later the boy was quite well and free from any trouble.

CASE 2.—The patient was a boy, aged 12 years. Towards the end of the football season some weakness and occasional pain were noted in the left knee. For the past six months the knee had frequently "given way" when the boy had been playing games, especially cricket. This "giving way" was attended with pain and the boy with difficulty prevented himself from falling. Two months previously some swelling was noted over the tibial tubercle and 14 days previously a symmetrical swelling was noted in the right limb also. During the whole period there had been occasional pain on movement, especially when the patient had been lying for some time in one position in bed. On examination a symmetrical swelling was observed at the level of each tibial tubercle, there were some local heat and tenderness over the swelling, and on the right side a suspicion of reddening of the skin. Neither swelling fluctuated. Skiagrams of the knees were taken by Dr. A. H. Greg (Figs. 2 and 3) which disclosed the following state.

FIG. 2.

Left knee. Considerable irregularity, slight displacement.

FIG. 3.

Right knee. Epiphysis almost normal.

The gaping of the anterior part of the epiphysial junction seen in Fig. 1 was absent and the ossific granules in the beak were not so much displaced and formed a continuous line. In both beaks, but especially in the left, a well-marked interruption of the ossific deposit existed at the junction of the beak with the main epiphysis (no obvious angle was formed here). The diaphysial prominence for the lower segment of the tubercle was absent, but the boy was only 12 years of age. Under the influence of rest, local rubbing, and the support afforded by a Velpeau's crêpe bandage the boy improved sufficiently in three months to return to school, violent games being for the time forbidden.

CASE 3.—The patient was a man, aged 22 years, a porter. Four years previously to his coming under observation he had received a kick from a horse on his right leg. Since

that period the tubercle of the right tibia had been increasing in size and prominence. At intervals he suffered with pain in the tubercle and he thought that this was particularly the case when the weather was wet and damp and at nights. The knee occasionally gave way and "let him down" and kneeling caused pain. The tubercles of both tibiæ were very prominent but this was much more marked in the case of the left. There was no change in the overlying parts on either side. A skiagram (Fig. 4) taken

FIG. 4.

Showing complete displacement. Rarefaction of tibial diaphysis.

by Dr. Greg showed the following appearances. The main epiphysis was consolidated with the shaft; in the place of the descending beak two ossific nodules at a higher level than their normal situation were seen in the substance of the ligamentum patellæ and completely distinct from the tibia. The diaphysial portion of the tubercle was well marked and beneath this and for a short distance downwards in the shaft the bone was unduly transparent and offered the appearance of a rarefying osteitis. As the tenderness and giving way were a source of much inconvenience to the patient it was decided to attempt to fix the detached tubercle. With this object a small flap was raised from over the tubercle and an incision was carried vertically downwards through the ligamentum patellæ. The portion of bone was found to be so moveable that the incision was carried through it and a "synovial space" was then found lying between the ligament and the underlying tibia. As it was thought that simple pinning down would probably fail to insure adhesion the osseo-cartilaginous nodule was removed from the tendon and the latter was fixed by suture to the tibia. The terminal attachment of the tendon had not been interfered with. The result has been good and the patient can now kneel without pain.

The three cases related are of interest as illustrating the various degrees of development of the condition and in showing that the mischief is primarily confined to the portion of the tibial tubercle developed from the epiphysis. It may be useful to add a few words concerning the pathology and symptomatology of the condition.

As has been shown by Schlatter and others ossification of the tubercle of the tibia may be in the form of a continuous extension downwards in the tongue-like prolongation of the epiphysis, or it may follow the appearance of separate ossific nodules in the tongue itself. Further, it is evident that the lower portion of the fully developed tubercle is formed by a projection of the diaphysis at the point of junction of the lower extremity of the epiphysial beak. The latter point is well illustrated by the three skiagrams accompanying the cases. In Figs. 2 and 3, from a boy aged 12 years, no trace of the diaphysial projection is to be seen; in Fig. 1, from a boy aged 14 years, it is obvious; while in Fig. 4 it forms a pronounced eminence. Its development no doubt corresponds with the increasing strain thrown on the diaphysis with the growing strength of the quadriceps extensor.

Causation of the condition.—In Cases 1 and 3 a kick was adduced as the original cause of the trouble by the patients themselves, and in the case of the two boys it is significant that the commencement coincided with the football season. The latter fact emphasises the influence of violent contraction of the quadriceps extensor in the production of the injury. The condition falls into strict coincidence with the rarer one of separation of the tibial tubercle in adults and differs chiefly in the comparatively small amount of displacement of the fragments. This is no doubt to be explained by the fact that the violence has usually been insufficient to tear the lateral extensions of the quadriceps passing to the line running from the tibial tubercle to the tuberosities. The effect of rupture of these extensions in allowing free displacement of the separated tubercle has been pointed out by Osgood[1] and compared with the corresponding result of free laceration of the expansions of the quadriceps and triceps respectively in fractures of the patella and olecranon. In both of the cases related above I should be inclined to relegate the result of the direct kick to the production of an excessive reflex contraction of the quadriceps due to the blow over the patellar tendon. This limitation of the degree of displacement is of practical importance, since it renders implication of the capsule of the knee-joint (a coincident injury seen in fracture of the adult tubercle) unlikely. Naturally the incidence of the condition is confined to adolescence and this of the early stage.

Pathological anatomy.—The influence of the mode of ossification of the tubercle has been already adverted to; suffice it to point out that in all three of the instances under discussion the process was that of the deposit of separate nodules in the beak. The figures show well the progressive change which may take place when the condition is untreated. In Figs. 2 and 3, in which the history was of six months' duration, slight change is to be observed beyond the evident break of continuity at the point of junction of the beak and main epiphysis. In Fig. 1, in which the history extended to 12 months, a well-marked angle has developed between the beak and the epiphysis, while a greatly increased distance separates the beak from the diaphysis. In Fig. 4, where the length of history amounted to four years, the beak has become entirely separated from the epiphysis, forming a kind of sesamoid bone in the patellar tendon, while the tubercle proper is formed from the diaphysis alone. The amount of separation of the beak from the diaphysis has been noted to vary considerably by other observers but whether the sequence of events shown by the above skiagrams is a common one further experience alone can prove.

Another point which deserves mention is the remarkable pseudo-inflammatory signs which are seen to accompany the injury. Thus not only are there local swelling, heat, and tenderness in the soft parts overlying and surrounding the tubercle but the underlying bone of the diaphysis also exhibits signs of rarefaction in an increased transparency. The latter is well shown in Fig. 4 and was existent also in the case forming the subject of Fig. 1, although it is not apparent in the printed skiagram. The inflammatory signs have in many cases given rise to the supposition that a local infective process was present. In a case reported by K. Winslow[2] these signs led to a negative bacteriological and inoculation test being undertaken and in Case 1 tuberculous disease was suspected by myself prior to the operation. In Case 3 the injury resulted in a very imperfect formation of the tibial tubercle, none the less the tubercle was unduly prominent, and it is conceivable that an unduly prominent tibial tubercle may be a remote result of the injury. In this very patient a large tubercle existed in the sound limb. Unfortunately I neglected to obtain a skiagram from it.

Signs of the injury.—The most characteristic clinical indication is the "giving way" of the forcibly extended knee. This seems to be present in all cases and is the more likely to be mentioned by the patient as it is usually antecedent to attacks of pain. The remaining clinical signs are pain, variable in amount and continuity but liable to

[1] Boston Medical and Surgical Journal, vol. cxlviii. p. 115.
[2] Annals of Surgery, No. 46, February, 1905.

occur after "giving way" of the knee or on the first movement of the limb after it has been at rest for some time in one position, as at night; local tenderness, elicited on palpation or on kneeling; swelling due to local œdema; and occasionally a suspicion of local redness of the surface. In Case 3 the tubercle was evidently moveable on palpation and manipulation of the tendon.

Treatment.—Rest and local support are the only necessary means when the cases are seen early and recognised. Counter irritation may be useful to relieve pain. Case 2 gives the probable ordinary course of the injury when taken in time.

I cannot defend the exploration made in Case 1 as it was undertaken on a mistaken diagnosis of tuberculous disease of the bone, but it certainly did no harm and I am inclined to think that it hastened the consolidation of the parts. In Case 3 the operation was indicated by the mobility of the tubercle, the long history of four years' duration, and the fact that the condition prevented the man from following his avocation with comfort. The result I consider justified the course followed.

Charles-street, W.

THE PRACTICAL VALUE OF GROCCO'S PARAVERTEBRAL TRIANGLE AS A PHYSICAL SIGN FOR THE DIAGNOSIS AND ESTIMATION OF PLEURAL EFFUSIONS.[1]

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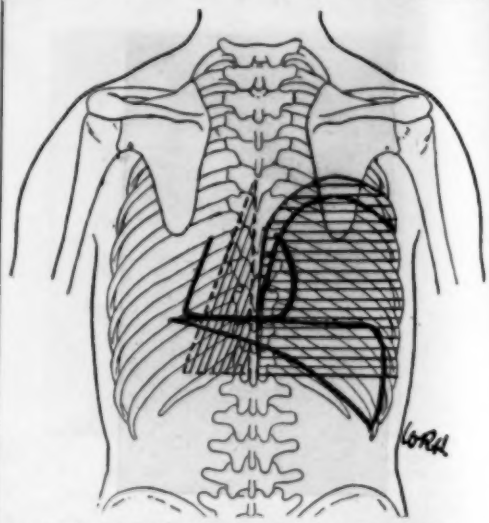
WHENEVER the size of a pleural effusion is equal to at least a fifth of that of the pleura its diagnosis can be safely established by the major signs at our disposal if we avail ourselves of the mutual confirmation which each of them affords to the others, but when its size is much less than a fifth physical examination does not provide us with the same strict demonstration and the presence of fluid in these small collections has generally to be inferred from the conjunction of suggestive minor signs, symptoms, and clinical circumstances. This was illustrated in two men, aged 26 years and 47 years respectively, recently under my care at St. George's Hospital with small effusions which were not tapped. In the former the fluid was easily identified at first, but at the finish its remainder could not be demonstrated with certainty by the usual methods. In the latter the diagnosis was difficult; and the fluid, which never rose above the lower fourth of the pleura, was not demonstrable by them either during the earliest or during the last stage of the attack. As a fact, owing to the inaccessible position of the *fundus pleuræ* and to its part-occupation by an organ most variable in size, we have not hitherto possessed any fine test comparable to that for small amounts of ascitic or of pericardial fluid. I am led to believe that "Grocco's sign" will now, as a rule, supply that deficiency, as it did in the cases to which I have referred.

I had not realised the capabilities of this interesting sign until it occurred to me to submit it to a crucial test which I found it stood well. I have since then made it the basis of my routine method for the rapid diagnosis of pleural collections, large or small. The fact that it is capable of being checked as to its genuineness in each case and at any moment by the simplest procedure places it on the list of our sure signs, and raises it in respect of trustworthiness even above the analogous sign for pericardial effusion known as the "lower dorsal dull patch"; for in the case of the latter the only crucial test with which I am familiar is its disappearance with the reabsorption of the pericardial fluid. The chief analogy which obtains between these two signs is that, in both cases, the demonstration of the existence of effusion is obtained at a distance from the fluid itself.

Grocco's sign is as follows. Whenever fluid (either pus or serum) collects within a free pleura, a paravertebral patch of partial dulness is obtainable in the other, the "dry" pleura, of triangular outline and of the shape and relative size shown in the diagram, which was kindly drawn for me by my able clinical clerk, Mr. W. R. Harris. *The crucial proof* which I employ to test the genuineness of the triangular dulness is its disappearance when the patient assumes the lateral decubitus on the side of the effusion, and its reappearance immediately he sits up or turns on to the sound side. This is at the same time a demonstration of the significance of the dulness, and for clinical purposes a sufficient proof that its production is due to the influence of a mobile fluid. When, however, the pleura is *over-distended* the mobility of the fluid is much reduced. The complete disappearance of



Grocco's "paravertebral triangle" of partial dulness in a case of right pleural effusion. The dorsal dulness of the heart and that of the liver are roughly indicated. The summit of "Damoiseau's curve" of pleural dulness is the level of the apex of the triangle; the relatively narrow base coincides with the twelfth rib.

Grocco's triangle does not then seem to occur, judging from one case recently examined by me, but the height of the triangle becomes much less with the change to the lateral posture.

The short routine method of differential diagnosis which I use on the strength of these observations consists in passing at once to the examination of the sound side of the back as soon as rough percussion indicates a basic dulness resembling that of effusion. If there should be no Grocco's triangle of dulness there can be no free effusion in the chest. Should a Grocco's triangle be found we may then proceed to apply the crucial test if we wish to be further convinced or to convince others that the dulness is really due to fluid. The mode of percussion is a matter of indifference so long as it is good and therefore efficient.

The next question is the *extent of the effusion.* This, too, has its answer in Grocco's triangle. For whereas, as shown by Grocco, the base of the triangle, corresponding in position to the twelfth rib and to the pleural sinus, varies only slightly with the bulk of different effusions (its length ranging between three and six, or even ten, centimetres), the length of the vertical side of the triangle (and, it follows, of the third side also) varies exactly with the upper limit of the effusion. Therefore when a skilled percussor determines by two or three strokes, and with great accuracy if he should be familiar with the plexímeter, the height of the triangle and the slope of its third side, which is then to be continued from apex to base with a touch of the pencil, he has not only to demonstrate that fluid has gathered in the chest but also determine its upper level; and he is able, even before percussing critically the effusion itself, to draw in anticipation at the level of the apex of the triangle a Damoiseau's curve which confirmatory percussion will prove to be absolutely correct. It need hardly be pointed out that the exact volume of the fluid within the chest cannot be measured in vertical inches of dulness and in inches of circumference. Its determination requires mathematical

[1] From notes of short clinigues in the wards of St. George's Hospital.

accuracy such as that claimed for the colorimetric method turned to clinical account by Schifone[2] on the basis of Niclot's method simplified by Achard. But for our usual clinical needs it is enough that we should know whether we have to deal with a few ounces or with pints, and the whole of this information, thanks to Grocco's discovery, can be obtained without any hurry in the space of two minutes.

Historical and explanatory note.—It is noteworthy that Banti[3] in 1902 had described the occasional occurrence of a dulness behind the sternum, due to a fluid effusion pressing its way forward. Grocco's communication to the Twelfth Congress of the Italian Society of Internal Medicine at Rome described the triangle; and since then papers have been published in Italy on the same subject, including one by Pieraccini,[4] another by Luigi Ferrannini,[5] who has given much attention to the clinical study of cases and concludes from his discovery of a radioscopic shadow corresponding to the triangle that the dulness is due to local pulmonary condensation under the pressure of a displaced heart, and specially important papers by G. Baduel[6] and by G. Baduel and Siciliano,[7] whose exceedingly thorough anatomical and experimental research is reported in an excellent review in the Epitome of the *British Medical Journal* of Nov. 26th, 1904.

It should be noted that the dulness of Grocco's triangle is of the partial kind only. As shown in my diagram partial dulness also obtains over the spines included in the vertical side of the triangle; and usually there is more of it below than above. The dulness also lessens from the middle line outwards; but it possesses nevertheless a most definite outer boundary which it is our business to percuss out. My former teaching that the vertebral spines are not dull to percussion except when effusion exists on both sides of the chest remains a true statement in the sense that there is not any absolute dulness of the spines in cases of unilateral effusion.

As to the causation it is perfectly clear that there is no underlying fluid at the site of the triangle. Baduel and Siciliano's transverse frozen sections prove this. My own independent observations had led me to recognise in the mathematical constancy of the lines a strict analogy with the still less variable lines of the "lower dorsal dull patch" and to surmise that this geometry had in both cases an anatomical basis. It seemed to me, too, that the hydrostatic conditions in the sitting posture would lead to greater sagging of the pleural sac at the base, particularly below the level of the floor of the pericardium, where the mediastinum is looser and the abdominal contents offer only a yielding resistance. I arrived at the conclusion, which I find is entirely borne out by Baduel and Siciliano's transverse sections, that the pleural fluid, whether its amount be small or large, would gravitate to the bottom of the loose pleural sac and cause its closer and more extensive adaptation to the vertebræ. These observers have been able to trace a slight shifting of the long axis of the aorta under stress of large accumulations; and they warn us of the danger the vessel might run if a left Grocco's triangle were to be aspirated by mistake.

Paravertebral in its site, Grocco's triangle is therefore in my opinion *vertebral* in its mode of production and is not due, as assumed by Ferrannini, to pulmonary condensation or displaced viscera. It is merely another instance of fluid acting as a mute (as in the production of the "lower dorsal dull patch") and of that pleximetric function of the vertebræ in conducting to the surface amplified or diminished vibrations to which I have for some years called attention. In this case the mute is applied over a portion of the circumference of the vertebræ and the damped vibrations are conveyed to the surface by the compound pleximeter made up of the vertebral spines and transverse processes and of the heads of the ribs. Metaphorically speaking, the dulled spine casts its shadow into the resonant chest; and its shadow grows downwards in proportion to the increasing surface of its contact with the dull fluid which takes the place of dry resonant lung.

This view is strikingly confirmed by my latest observation, made since writing this paper, in a case of pyuria and right lumbar abscess.[8] The presence of a low but rather broad Grocco's triangle in the usual situation led me to diagnose also an empyema as a complication. But no pus was found in the chest, and the triangular dulness vanished as soon as Sir William Bennett's incision emptied the lumbar abscess. The case is valuable as showing that a paravertebral triangle of dulness may be set up at the base of the thorax by a collection of fluid below the diaphragm.

Carson-street, W.

[2] Riforma Medica di Palermo, Nov. 16th, 1904. Cf., Journal of the American Medical Association, vol. ii., 1904, p. 668.
[3] Rivista Critica di Clinica Medica, 1902.
[4] Rivista Critica di Clinica Medica, 1903; and Clinica Moderna, 1903.
[5] Riforma Medica, August 30th, 1904. Cf., New York Medical Journal and Philadelphia Medical Journal, Oct. 15th, 1904.
[6] Riforma Medica. Palermo, xx., No. 6, 1904.
[7] Rivista Critica di Clinica Medica, January, 1904.

CHONDRODYSTROPHIA FŒTALIS OR ACHONDROPLASIA.

BY H. M. JOSEPH, M.B., B.C. CANTAB.,
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THE importance of a disease to the practitioner increases with its incidence and a rare disease commands little attention. The consequent difficulty in diagnosis must be my excuse for giving this account of a typical case of achondroplasia, a disease sometimes mistaken for rickets but more often perhaps for cretinism.

The patient, a strong healthy girl, aged three years and eleven months, had recently recovered from a severe attack of diphtheria. She had had no previous illness. Several medical men had seen her and she had been treated without result with thyroid extract and also for rickets. There were four other children, all normal. Dwarfism was not known to have occurred in any relative. Although clever at imitation the child's mental condition was below normal. Her speech was indistinct and curtailed, almost restricted to affirmation and negation. Her general appearance was

	Measurements.	Case of achondroplasia.	Average of three normal children of same age.
	Weight	24·5 lb.	33 lb.
	Height	75·0 cm.	95·0 cm.
Head.	Circumference of head	52·0 ,,	48·6 ,,
Head.	Occipital protuberance to root of nose	35·0 ,,	32·0 ,,
Head.	External auditory meatus to external auditory meatus (over the vertex)	36·0 ,,	33·6 ,,
Face.	External auditory meatus to external auditory meatus (over upper lip)	21·5 ,,	23·3 ,,
Face.	Root of nose to chin	9·0 ,,	9·2 ,,
Trunk.	Circumference of neck	23·5 ,,	23·3 ,,
Trunk.	,, ,, chest (level of nipple)	45·5 ,,	49·3 ,,
Trunk.	,, ,, abdomen (level of umbilicus)	52·5 ,,	46·0 ,,
Trunk.	,, ,, pelvis	46·0 ,,	46·0 ,,
Trunk.	Suprasternal notch to symphysis pubis	32·0 ,,	32·5 ,,
Trunk.	Length of spine	36·5 ,,	38·0 ,,
Trunk.	Subcostal angle	130°	78°
Upper limb.	Length of arm	8·0 cm.	14·5 cm.
Upper limb.	,, ,, forearm	11·0 ,,	12·8 ,,
Upper limb.	,, ,, hand	8·0 ,,	9·4 ,,
Upper limb.	,, ,, middle finger	4·5 ,,	5·8 ,,
Upper limb.	Circumference of arm	14·0 ,,	13·3 ,,
Upper limb.	,, ,, forearm	12·5 ,,	12·6 ,,
Upper limb.	,, ,, elbow	15·0 ,,	13·5 ,,
Upper limb.	,, ,, wrist	10·5 ,,	10·1 ,,
Upper limb.	,, ,, hand	12·5 ,,	11·7 ,,
Upper limb.	,, ,, finger (first phalanx)	5·0 ,,	4·2 ,,
Lower limb.	Great trochanter to external malleolus	26·0 ,,	40·3 ,,
Lower limb.	,, ,, end of femur	14·0 ,,	21·2 ,,
Lower limb.	Circumference of thigh (middle)	25·0 ,,	24·9 ,,
Lower limb.	,, ,, calf	18·0 ,,	17·7 ,,
Lower limb.	,, ,, knee-joint	20·0 ,,	19·6 ,,
Lower limb.	Length of foot	11·5 ,,	13·7 ,,
Lower limb.	,, ,, great toe	3·0 ,,	3·5 ,,
Lower limb.	Circumference of foot (level of heads of metatarsals)	13·0 ,,	13·5 ,,

[8] Medical Register, 1905.

peculiar. The large cranium with prominent forehead, the depressed nasal bridge and consequent flat appearance of the face, the small chest and prominent abdomen and buttocks, and the short limbs and trident fingers made up a characteristic picture. The measurements of the head, trunk, and limbs, compared with the average of those in normal girls of the same age, will show the more marked features of the case.

The tip of the midddle finger reached only to four centimetres above the great trochanter, while in the normal child it reached nine centimetres below the great trochanter. A

small part of this difference was due to the want of complete extension in the elbow-joint—a condition usually seen in these cases.

From these figures it is plainly seen that the limbs and the chest were well below the average and the face measurements slightly below, while the cranial portion of the skull, the abdomen, and the circumference of the hands and fingers were above the normal size. The accompanying photograph displays these characters.

London.

THE DIGESTIVE AND OTHER ACTIONS OF APPLES, PEARS, CHERRIES, STRAWBERRIES, ETC.

BY J. GORDON SHARP, M.D. EDIN.

THE value of the soft fruits as an adjunct to the more solid articles of diet has for long been recognised. The salts which they contain have been regarded as useful in building up the tissues by supplying them in the proper combination required by these tissues, while the succulent and indigestible fibrous material has been recognised as a salutary irritating agent to the gut in persons inclined to constipation. So far good, but the succulent fruits possess other properties not so often appreciated but yet as important as those with which we are already so familiar. The first property may be stated as follows. The organic acids contained in fruit unite with the iron of the more solid foodstuffs to form malates, citrates, &c., and these malates, citrates, &c., are acted upon by the digestive juices low down in the gut, where the iron becomes soluble and active. The great advantage is that the iron in this form is non-irritating. As is well known, much of the iron of our food is lost as iron because it passes out of the gut unused, and unused because it is insoluble. This matters little if the hæmoglobin standard is maintained but in anæmia it is a very important point. Here a suitable dietary made up of proteid and a reasonable supply of fruit may "cure" the condition. As I have already said, the acids of the fruit "fix" the iron contained in the proteid forming organic iron salts which are broken up lower down in the alimentary tract and can be employed by the blood tissue. I know it is denied that the organic preparations of iron are of service in anæmia but from this view I dissent because I have again and again proved its fallacy.

The second property possessed by many of the succulent fruits depends on the presence of a ferment or ferments. I do not mean the ferment common to all living tissue, animal as well as vegetable, such a ferment as will split up glucosides, but I mean rather a series of ferments analogous to those found in the pancreas. We have many familiar examples of the operations of the ferment common to vegetable and animal substances. Tincture of kino when kept from one to two years shows signs of gelatinising and this has been proved to be due to the action of a ferment which is present in the gum kino and the action of which is only developed at the end of a lengthened period. Tincture of digitalis at the end of two years begins to lose its efficacy and this loss is due to the glucosides being split up by a ferment. Another example we find in the bitter almond. Ferment and glucoside lie side by side and remain inactive in the dry state but as soon as water is added the ferment becomes active and splits up the glucoside amygdalin into the well-known aldehyde and hydrocyanic acid. As yet another example of ferment action we turn to the animal tissues and note that when the proteid compounds of silver or other metal are brought into contact with the discharges from the eye or from an open wound the compound is broken up. These are all instances of ferments common to all living tissues and possessing no special action, but my chief purpose in the present paper is to call attention to ferments resembling pancreatine in the animal and papaine or bromeline in the vegetable kingdom. I wish to show that many common fruits contain ferments which play the part of papaine and bromeline (the ferment of pineapple) and that they can digest both egg and serum albumin to some limited extent. The following experiments undertaken to prove or disprove the presence of digestive ferments will indicate the drift of my argument.

I.—THE ACTION OF STRAWBERRIES ON ALBUMINS.

The action of the fresh fruit on coagulated egg albumin.—If fresh ripe strawberries are cut into thin slices and spread in double layers over the bottom of a thin glass dish and on the top of this is placed a thin layer of rubbed-up coagulated egg albumin, and on the top of this another double layer of sliced strawberry, the albumin is sandwiched between layers of strawberry and so is continually moistened by the juice of the fruit. Digestion slowly takes place at the end of eight hours' exposure at summer heat. Evidence of digestion of the albumin is obtained in the following manner. The mass of egg albumin and strawberry is mixed with cold water, stirred up, and the whole is filtered twice through paper when a clear filtrate is obtained. To this filtrate ammonium sulphate is added in excess and a dense precipitate falls and on examination it is found to be a proteid, probably an albumose. Compared with this, similar weights of strawberry and albumin examined without being subjected to digestion yielded very sparing precipitates.

The action of strawberry juice on serum albumin.—In this experiment small masses of coagulated serum albumin (prepared from fresh meat) were placed between treble layers of sliced strawberry and exposed as already detailed in the egg albumin experiments. At the end of eight hours the masses of albumin were found to be softened and eroded

all around the outside surface. A watery solution of this serum albumin and strawberry compound was dialysed through parchment and the dialysate on being tested for proteid gave a decided rose pink with copper sulphate and caustic potass. In this and the other experiments no qualitative analyses of the particular proteid found were made but one may say that the mere fact of being able to pass through parchment was alone proof of the presence of a high albumose and consequently of considerable digestive activity in the strawberry juice.

II.—The Action of Ripe Cherries on Boiled Egg Albumin.

If ripe cherries are split open and the surface of each cherry is covered with a thin layer of coagulated egg albumin that has been rubbed up into a fine pulp and each cherry is again closed and laid in a thin glass dish and protected from dust and then exposed to summer heat for eight hours a considerable degree of digestion is found to have taken place. At the end of this period if these prepared cherries be treated with cold water and the whole then filtered twice through paper the filtrate will, with excess of ammonium sulphate, throw down a very large precipitate of proteid. In a control experiment a like amount of plain egg white and cherries gave a sparing precipitate.

Serum albumin exposed in the same way to split cherries shows rather less sign of digestion than in the egg-white experiments. It should be rather the other way, for serum albumin is generally easier of digestion than egg albumin. Comparing white cherries with black cherries, the former are more active than the latter.

The ferment of ripe cherries.—If the pulp of fresh cherries be extracted with cold water and filtered there is obtained a thick fluid containing proteid material and associated with it the ferment of the cherry. To obtain the preparation in a dry state the fluid is poured into great excess of absolute alcohol and set aside for two months, when the proteid becomes slowly coagulated and it can be collected on a filter and dried rapidly at a low temperature to avoid destruction of the ferment. I have prepared it in this manner and have found it active at the end of two years' time, and its property of splitting up glucosides could be readily demonstrated when a small quantity of the dried preparation was placed in a wide-mouthed bottle along with a teaspoonful of cold water and five grains of amygdalin and the whole set aside at a temperature of 76° F. (24° C.) for from six to eight hours. In time the ferment acts on the glucoside amygdalin whereby it is broken up into oil of bitter almonds (detected by its odour) and hydrocyanic acid. The latter is readily detected if a glass plate with a drop of clear nitrate of silver solution on its inside surface be employed as a cover to the wide-mouthed bottle. As soon as the acid appears in the bottle its vapour rises and acts on the transparent nitrate of silver and changes it into milky cyanide of silver.

The evidence of the digestive action of the dry extract can also be elicited by placing a small quantity of it in a 0·2 per cent. hydrochloric acid solution, adding a small amount of rubbed-up egg white, and keeping the mixture at a warm temperature for eight hours with occasional shaking. The proofs of digestive actions were (1) that when the whole mass was placed on a parchment dialyser the clear fluid which came through gave a pink reaction with a weak solution of sulphate of copper in caustic potass; and (2) the further proof was that the clear dialysate on being thrown into alcohol deposited albumose or peptone or both. The presence of the ferment can also be detected in the fresh cherries by splitting up the ripe fruit and spreading over the cut surface a thin layer of amygdalin and leaving it for a few hours at a temperature of 76° F. (24° C.) when the bitter almond odour develops and the presence of hydrocyanic acid is revealed by the silver nitrate test.

III.—The Action of Orange Juice on Proteid.

Orange juice, freed from all admixture of rind, has a slight digestive action on coagulated egg white and it can be proved in the manner I have already mentioned. If amygdalin be added to the fresh juice the bitter almond odour soon develops. The amount of ferment is perhaps greatest when the fruit is at its ripest.

IV.—The Action of Pear Juice on Coagulated Fibrin.

In this experiment ripe pears were cut open and the cut surfaces covered with a thin layer of coagulated blood fibrin and then closed again and exposed at summer heat in a thin glass vessel for eight hours. The clot gradually became softened and finally quite dissolved. The addition of 0·2 per cent. hydrochloric acid to the juice did not help but rather retarded the digestive action of the pears.

V.—The Juice of Ripe Apples.

The juice of ripe home-grown apples acts much in the same way but less powerfully than pear juice. This part of the subject naturally leads to the consideration of tinned fruits and at once I may say that all tinned fruits are inert as digestives. The prolonged high temperature necessary to their preservation destroys the ferments. On the other hand, baking or stewing fruit does not entirely destroy the ferment unless the heat be very prolonged. A test as to whether or not a cooked fruit is inert is to be found in the presence or absence of the original flavour of the fruit. If a cooked fruit has lost all its flavour then one may say it has lost all its ferment.

Practical Application of the Foregoing Experiments and Observations.

To obtain most benefit from the succulent fruits they should be eaten at the end of the chief meal. This is a general rule to which, however, there are some exceptions. Bananas, for example, perhaps have little digestive activity, and besides they are as much a food as a fruit. They may be eaten with any meal and to many people they are most acceptable when they are cut in thin slices and eaten with bread-and-butter. When not quite ripe they may be placed in a hot oven till they are soft. In the same manner apples may be baked in an oven or roasted in front of the fire. Either of these methods preserves the flavour of the fruit.

Stewed fruit is often recommended as a stimulant to the lethargic gut in constipation but in nine cases out of ten no directions are given for its proper use or if directions are given they are of a character little likely to benefit the condition which they are intended to relieve. Six or eight stewed prunes eaten half an hour before breakfast often prove laxative later in the day, while double the number eaten with or after a meal may have no effect as an aperient. Stewed figs or apples may also be eaten before breakfast in cases where the stomach can tolerate them and where the desire is to get a laxative effect with the greatest degree of certainty.

In our climate we cannot enjoy the luxury of ripe oranges but we can obtain a good substitute by eating the fruit in the shape of a salad. If the orange is peeled and then cut into thin slices so that the juice is set free and castor sugar be strewn over the cut slices it is not unlike pine-apple and as an aid to digestion is highly efficacious. Many fruits if eaten when the stomach is comparatively empty give rise to acidity. Grapes are especially harmful in this direction and it is well to bear in mind that grapes should be eaten at the end of the chief meal of the day.

By an intelligent recommendation of the proper use of fruit in our dietary the medical man can do much to counteract the evil influence of those who teach the entire use of fruit as an article of diet. Every medical man now and then comes across patients who have dined for weeks on half a dozen bananas, a pound of strawberries, a pound of uncooked apples, or a pound of grapes or other fruit. Strange to say, it is often the poor creature who is run down who takes to this fruit craze and, as might be expected, the injudicious feeding makes his condition worse. The importance of many of these points I am afraid is not sufficiently appreciated by medical men. Patients nowadays expect us to give them hints not only on what they should eat and what they should avoid, but likewise as to the manner in which their food should be cooked and eaten. We shall do well if we use wisely the new power given into our hands.

Leeds.

ORAL SEPSIS AS A CAUSE OF IRITIS.

By E. KENNETH CAMPBELL, M.B. Edin., F.R.C.S. Eng.,
SURGEON TO THE WESTERN OPHTHALMIC HOSPITAL.

SYPHILIS and rheumatism have become assigned in ophthalmic literature as the more or less stereotyped causes of iritis, the former for the plastic and the latter for the serous. The ascription of any particular disease to syphilis is often a mere refuge for one's ignorance—*obscurum per*

obscurius. "Rheumatism" is an indefinite word, often loosely applied, and has, in fact, no precise scientific meaning. Apart from rheumatic fever (due to a specific microbe) and gonorrhœal synovitis (due to the gonococcus), the term "rheumatic" is used vaguely by the surgeon as connoting two special attributes: (*a*) pain and (*b*) relapse. With regard to rheumatic fever itself I have never known a case to be complicated by iritis and neither have I met with anyone who has. In children rheumatic fever is very common though iritis is very rare.

There is a lack of scientific evidence of any real etiological connexion between iritis and gonorrhœal synovitis, and I have never seen an instance in which their conjunction has been unequivocal. Certainly one occasionally comes across a case of iritis associated with what has been wittily phrased as that "one touch of rheumatism which makes the whole world kin." The pathology of this ordinary chronic rheumatism is obscure: physicians tell us that it is often incipient or mild rheumatoid arthritis, due no doubt to the action of some toxin which has a predilection for the joint structures. But as this kind of rheumatism is exceedingly common its causal connexion with iritis is open to the objection of the *post hoc ergo propter hoc* fallacy. Adopting the thesis that all disease is the direct result of the action of toxins, in elucidating the causes of iritis our inquiry must be directed as to the "port of entry."

At the last meeting of the British Medical Association Dr. William Hunter further elaborated his well-known views with regard to oral sepsis as a cause of disease. In his very luminous exposition of the subject Dr. Hunter enumerates several diseases which he refers to this cause. He omits, however, all mention of iritis. Since the publication of the paper in question I have seen three cases of iritis in which there was an absolutely negative history of either syphilis or rheumatism in any shape or form. In all the three there was marked evidence of oral sepsis; the alveolar margins along the whole line of teeth were red and inflamed, the gums bled easily, on pressure small beads of pus welled up (pyorrhœa alveolaris), and the breath had a sour smell. They all had the dirty sallow complexions suggestive of septic anæmia. The treatment adopted was the following: the teeth were scaled, stopped, or extracted, suppurating pockets were purified, and the mouth was rendered as pure as possible. This, combined with the use of mydriatics and tonics, cured all the three cases rapidly.

In conclusion, I would therefore urge that the constitutional treatment of iritis should be directed to the removal of oral sepsis, for though about 50 per cent. of cases of iritis are undoubtedly due to syphilis yet even here we must admit the possibility of a mixed infection. In the words of Professor J. Miller: "Their custom—i.e., physicians'—to disregard dental diseases altogether as a factor in pathology is as unjust to their patients as it is discreditable to their profession."

Wimpole-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

29 YEARS OF CATHETER LIFE.

BY R. HINGSTON FOX, M.D. BRUX., M.R.C.P. LOND.

THE patient was a man of massive frame, 6 feet 2 inches in height. He had been accustomed all his life to outdoor pursuits, was very regular in his habits, and had been an abstainer from alcohol and tobacco for many years. When aged about 60 years he began to have difficulty in passing urine and it used to dribble away from him. Later he was examined by Mr. Buxton Shillitoe who found the prostate gland enlarged but passed a catheter without difficulty. The patient soon learned to use a soft gum-elastic catheter for himself and from this time to the end of his life (29 years) he never passed without its aid any urine beyond a few drops. He passed a catheter several times a day and took little or no precautions against sepsis.

About 15 years ago when using the catheter in a hurry he made a false passage, bled freely, and could not relieve himself. As his local medical attendant was unable to pass the catheter Mr. Shillitoe was summoned and succeeded in doing so, relieving him of much clot. After this there was no further difficulty for many years. He retained considerable activity of body and engaged in public duties as an alderman of his county and otherwise until he was about 90 years old. He fell and fractured a fibula at the age of 80 years and fractured the femur of the other leg ten years later, recovering sufficiently to walk in his garden with two sticks.

The patient received the careful attention of Dr. Edmund E. Goodbody in his later years who reports that he took cold some weeks before his death, causing inflammation of the bladder and prostate. For the last eight or ten days there was free hæmorrhage after the use of the catheter and this weakened him much. Attacks of pain at the neck of the bladder occurred and in one of these he died suddenly on Dec. 10th last. He was aged 91 years and four months and had depended on the daily use of the catheter for 29 years. There was no examination of the body.

Weymouth-street, W.

A CASE OF MYXŒDEMA WITHOUT LOSS OF HAIR.

BY CHARLES W. CHAPMAN, M.D. DURH., M.R.C.P. LOND.,
SENIOR PHYSICIAN TO THE NATIONAL HOSPITAL FOR DISEASES OF THE HEART.

THE patient, a woman, aged 48 years, the mother of three children, came under my care in October, 1904. She complained of increasing inability for exertion of mind and body, unsteadiness of gait, great impairment of memory, tendency to fall asleep in the chair at any time of the day, severe lumbar pains, neuralgic pains followed by numbness down both arms, especially the right, loss of appetite, menorrhagia, and general puffiness. Her general health had been very good up to five years previously, when the menstrual loss became excessive and the periods recurred with increasing frequency until the patient was never more than from eight to ten days free. The flow was so profuse as to necessitate complete rest in bed for the first three days. A gynæcologist was consulted who, finding no growth or other abnormal condition of the uterus, attributed the symptom to the change of life and prescribed an ergot mixture to be taken during the periods.

On examination there were general puffiness with large supraclavicular pads, large tongue, flushed cheeks, and the external canthi were sloppy-looking from mucin (a sign of myxœdema to which I called attention some years ago)—in fact, the whole appearance was typical of myxœdema with the exception that there was no loss of hair. On the contrary, the patient had an exceptionally fine head of hair.

The improvement under the usual treatment was soon evident, one of the first signs of which was the marked diminution in the menorrhagia without the assistance of special drugs. The patient is at the present time in a normal state of health and appearance, she can walk for miles, the lumbar pains have gone, and the neuralgia in the arms is fast subsiding.

It is interesting to note that two weeks after the thyroid had been taken the hair combed out more freely than ordinarily for a few days and then this ceased. This circumstance suggests that had treatment been much longer delayed the hair would have suffered. Thinning of the hair is generally one of the early signs of myxœdema. I have seen a fair number of cases of this disease but never one presenting all the usual features of the disease in which the hair was unaffected. This case illustrates how a correct diagnosis may be missed through the absence of one only of the classical signs of a particular disease and, as a consequence, the beneficial effects of appropriate treatment may be needlessly delayed.

Weymouth-street, W.

A CASE OF CUT-THROAT.

BY JOHN M. BRYAN, L.R.C.P. LOND., M.R.C.S. ENG.

ON Saturday night, May 6th, at about 9.45 o'clock, a sharp pull at my door bell was followed by the entrance of a policeman requesting me to go at once to a case of cut-throat in a house about a quarter of a mile away. Hastily picking up a pocket case and bandages I hurried after him.

On reaching the dark street I was directed by the neighbours standing about to the house. On entering I rushed up the short flight of stairs and found the narrow doorway of a small back room blocked up by the back of a policeman. On squeesing by him I saw that he was supporting a form partly lying on the floor which was covered in blood; another was holding a candle. A glance showed that the patient was quite dead. The police had placed a wet towel round his neck. On removing this I found that a most determined attempt had been made, producing a regular and very smoothly clean-cut wound running transversely right through the thyro-hyoid membrane down to the gullet, without damaging the latter but severing the contiguous large vessels. The cut windpipe was widely gaping and the parts looked pale; all bleeding had, of course, stopped. Both ends of the wound were alike, each end being at a distance of two inches from the tip of the nearest ear. On examining the body afterwards at the mortuary I found that the blood had trickled down inside the shirt as far as the pubes. There was blood also on both hands but no other mark of injury.

It appeared that this young single man, aged 28 years, had been out of work for several months but had got into work again the week before this occurrence. He came indoors partly intoxicated, ate his supper, and afterwards had a few words with his parents because his bicycle had been removed from the hall and carried upstairs to his bedroom, which proceeding put him into a passion, so he went upstairs and cut his throat in the dark. I was informed that the razor was found on a low box on *the left-hand side* of him.

In his remarks to the jury the coroner, who was evidently unaware that it is sometimes difficult to judge of the direction in which the wound is made, whether from the left (the usual direction) or the right side, stated that the medical evidence did not help them much, and went out of his way to say further that he was surprised that a man of my experience should not have noticed sufficiently to be able to state which hand was used (which was not correct). This case illustrates the difficulty which sometimes exists of being able to state from an examination of the wound in which direction the cut is made. There was no evidence or suspicion of foul play and I told the jury that it was my opinion that the injury was self-inflicted.

Northampton.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROYAL FREE HOSPITAL.

A CASE OF POST-ORBITAL ANEURYSM.

(Under the care of Mr. JAMES BERRY.)

FOR the notes of the case we are indebted to Dr. Mildred M. Burgess, late house surgeon.

The patient, a woman, aged 45 years, married, was admitted to the Royal Free Hospital on July 18th, 1904. She had had eight children. The last confinement took place five years ago. Within 12 hours of the birth of the child she suddenly felt intense pain in the head, chiefly over the right orbit. It was followed immediately by a snap, as if something had burst in the head, and was accompanied with a loud, rushing sound. Three weeks later her mental condition became impaired. She was sleepless and talkative, mistook identities, and had olfactory and visual hallucinations. Proptosis and ptosis of the right eye developed together with complete anæsthesia of the right side of the face. She had great thirst and passed large quantities of urine. She remained at home for the next three months but as her mental condition did not improve she was removed to Bethlem Hospital. While there she was depressed, being unable to occupy herself or to keep her attention fixed. There was slight rigidity of the extremities. She had hallucinations of vision and smell but these soon disappeared. There was some deafness of the right ear in which she heard a rushing sound and a murmur synchronous with the pulse could be heard with the stethoscope above the right ear. The right eye was anæsthetic; there were severe conjunctivitis and a corneal ulcer. There was further a paralytic internal squint of the right eye. The conjunctivitis and ulcer disappeared under treatment.

Mentally the patient was an ordinary melancholiac. Her mental condition slowly improved but the physical signs were present when she was discharged. On regaining her reason she became conscious of a rushing, hissing noise in the head which she likened to the sound of a saw-mill. She said that she could stop this by pressure on the neck. Since this time till admission to the hospital she was troubled with the following symptoms: (1) Severe pain in the head, always present, but varying in intensity, sufficiently great to prevent sleep and to require morphine daily; (2) a rushing noise in the head; (3) impairment of vision in the right eye; (4) loss of sensation and movement in the right eye; and (5) anæsthesia of the right side of the forehead, the upper part of the right side of the face, and the top of the head. The family history was of no interest. There was no insanity in the family. The only point of interest in the past history was the fact that after a confinement nine years ago she had a hæmorrhage from the right ear.

On admission the patient was stout, pale, and unhealthy-looking; the skin was waxy and the mucous membranes were anæmic. Examination of the urine pointed to a condition of chronic interstitial nephritis; its specific gravity varied between 1010 and 1012; a faint trace of albumin was present; the urea was 0·8 per cent.; the average amount of urine was 40 ounces per diem. The heart's action was extremely feeble, the sounds being very faint. No murmurs could be detected. There was nothing abnormal in the lungs. The right eye presented the following appearances: proptosis and ptosis; an oval ulcerated patch over the lower part of the cornea and below this a leash of injected vessels. The cornea was insensitive. The pupil did not react to light or accommodation. There was no discolouration of the iris; it dilated under atropine. The upper eyelid could not be raised to the full extent but the eye could be completely shut. The sight was impaired owing to corneal ulceration. Pulsation in and around the eyeball was not detected. The ophthalmoscopic appearance of the disc could not be made out owing to the blurring of the cornea. Over the right temple a distinct but distant systolic bruit could be heard. Examination of the cranial nerves on the right side showed the following to be affected: third and fourth, paresis of the muscles supplied by these—i.e., some ptosis, weakness of the internal rectus, poor rotatory movements. The up-and-down movements were good. Sixth, complete paralysis of the external rectus. Fifth, the ophthalmic and superior maxillary branches were affected—i.e., anæsthesia of the cornea and the face. The muscles of mastication were unaffected. The other cranial nerves were normal. There was no interference with the motor and sensory systems in the limbs and trunk. The reflexes were normal. There were no interference with the lumbar centres and no trophic changes.

The following diagnosis was made. Idiopathic aneurysm of the right internal carotid in the neighbourhood of the cavernous sinus involving the sixth, the superior maxillary and ophthalmic branches of the fifth, and the third and fourth nerves partially, probably produced by embolism due to a clot formed in the left auricle, the circulation having been depressed by exhaustion or hæmorrhage consequent on the confinement.

As regards treatment, before admission the patient had undergone a course of treatment with iodides with no result. Mr. Berry proposed to tie the right internal carotid in the neck.

On July 22nd the internal carotid was tied about one inch above the bifurcation of the common carotid. The operation was performed in the usual way and presented no difficulty. After ligature no alteration in the pulse at the wrist was observed, nor was the action of the heart interfered with in any way. The patient stood the operation well. The after-effects were very satisfactory. The rushing noise in the head ceased from the time of the operation. The patient could not hear it nor could a murmur be detected with the stethoscope. There were no mental symptoms. She still complained of pain but slept without morphine. The

stitches were removed on the sixth day. Primary union resulted. The patient was discharged on August 3rd.

After leaving the hospital the patient was attended by her private medical attendant (Mr. Cyril E. Hogan of Clapham) and was not seen again till Oct. 12th, 1904. She then reported that her general health had been very poor but she had had no return of the rushing noise; the pain was less severe, occurring only in attacks which were lessening in frequency and intensity. The sensation in the face had slightly improved. The local condition of the eye remained the same except that proptosis was not so marked. She died at the end of May, 1905. The kidneys were the cause of all her trouble latterly. The operation was an entire success; there was no further trouble so far as the aneurysm was concerned.

BOLTON INFIRMARY.

THREE CASES OF PERFORATING GASTRIC ULCER.

(Under the care of Mr. R. D. MOTHERSOLE.)

CASE 1.—The patient, a female, aged 22 years, was admitted to the Bolton Infirmary on Nov. 10th, 1900, suffering from gastric ulcer. On Dec. 4th she was seized with a sudden pain in the epigastrium; she complained of great tenderness on pressure over the stomach and there was much rigidity of the abdominal muscles in that region. A diagnosis of perforating gastric ulcer was made and the abdomen was opened in the middle line above the umbilicus. There was no free gas or fluid in the peritoneal cavity and no perforation could be found on the anterior surface of the stomach. It was considered that if a perforation had occurred it was shut off by adhesions and the abdominal incision was closed. The patient's condition improved considerably after the operation and she left the infirmary on Feb. 4th, 1901. After this her stomach continued to trouble her and in June, 1903, she again came to the out-patient department. She was then very anæmic and complained of frequent attacks of hæmatemesis, with much pain in the epigastrium, especially after food. She became an in-patient on June 24th and was then extremely anæmic; her pulse was 130 and her respirations were 40 per minute. There were evidence of cardiac dilatation, a bruit at the root of the neck, œdema of the legs and feet, and enlargement of both the liver and spleen. She complained of occipital and temporal headache. The urine was alkaline, of specific gravity 1006, and contained a trace of albumin. Her condition improved slightly for a time but towards the end of July she had several attacks of hæmatemesis; a very severe one occurred on July 24th, in which she was said to have lost about two pints of blood. On August 11th, therefore, it was decided to operate.

At the operation the tissues were extremely anæmic, the blood was very pale and thin, and considerable oozing took place from the cut surfaces. The stomach was not dilated and no ulcer could be felt on either anterior or posterior surface but the cardiac end appeared to be fixed by adhesions. A posterior gastro-jejunostomy was performed in the hope that the ulcer would have a better chance to heal. The patient rallied well after the operation and felt much more comfortable for a few days, with no vomiting and no abdominal pain. On August 15th she was allowed a small amount of peptonised diluted milk and as this was well tolerated she was given a little chicken-broth and malted milk on the following day. But on the 17th she began to vomit and continued to do so frequently until her death on the 21st. The vomit contained a large amount of altered blood. Shortly before her death she complained of severe pain in the epigastrium with much tenderness and marked rigidity but she was then in too bad a condition for any further operation.

Necropsy.—At the post-mortem examination the peritoneal cavity contained a considerable quantity of yellow turbid fluid. The cardiac end of the stomach was firmly adherent to the spleen, which was about twice the normal size. On opening the stomach a rounded aperture was found at the cardiac end of about the size of a five-shilling piece. The edges of the opening were smooth and it led into a cavity in the spleen which extended right through the substance of that organ and on its outer side was only bounded by the peritoneum. This was sloughing and had given way at one point. Nothing could be found on the gastric mucous membrane suggestive of any recent hæmorrhage.

CASE 2.—The patient, a girl, aged 19 years, had for about 12 months suffered from symptoms of gastric ulcer. On Jan. 15th, 1903, about 1 P.M., shortly after her dinner, she was seized with an acute pain in the epigastrium. She went to bed and slept but awoke at 4 P.M. with excruciating pain over the stomach. When seen at 5 P.M. she was in great distress and writhing with pain. There were much abdominal tenderness and muscular rigidity extending downwards below the umbilicus. The diagnosis of gastric perforation was clear and after a hypodermic injection to relieve her distress she was removed to the infirmary. On admission she was obviously collapsed; her pulse was 130, small, and weak. She was operated on at 6 P.M.—i.e., five hours after the onset of the attack but probably only two hours after the first escape of gastric contents.

On opening the peritoneum some turbid fluid and a little gas escaped. The perforation was on the anterior surface of the stomach a little to the left of the centre and near the lesser curvature. The ulcer, or at any rate the greater part of it, was rapidly excised with scissors, one blade of which was passed into the stomach through the perforation. The whole thickness of the stomach wall was then sewn up with a continuous suture of strong catgut, so that the line of suture was at right angles to the long axis of the stomach. Outside this a continuous Lembert suture of fine silk was inserted. The peritoneum was then cleansed thoroughly by systematic swabbing, a small incision being made below the umbilicus in order to reach the pelvis more easily. A Keith's tube was left in the lower opening but the upper one was entirely closed. The patient's progress was quite uneventful and at no time after the operation did she look really ill. She left the infirmary on Feb. 17th. She has since had some dyspeptic trouble but is now quite well.

CASE 3.—The patient, a man, aged 28 years, was admitted to the Bolton Infirmary on April 11th, 1904, complaining of abdominal pain, vomiting, flatulence, and loss of flesh. His illness began about two years previously with occasional attacks of abdominal pain and flatulence and in October, 1903, he began to vomit after food and to get thinner. The vomit contained altered blood. On admission he appeared to be much emaciated and complained of dull pain in the epigastrium, usually coming on two hours after food and relieved by vomiting about four hours after food. A tumour could be felt in the situation of the pylorus. His weight on admission was 114 pounds, ten days later it had risen to 115½ pounds, but in another eight days it had fallen to 113½ pounds. The case was considered to be one of gastric ulcer with some pyloric obstruction, the stomach being somewhat dilated. It was proposed to perform a gastro-jejunostomy, but at the beginning of May his condition improved, he felt much easier and increased in weight. On May 9th, however, at 5 A.M. he was seized with violent pain at the pit of the stomach. Owing to unavoidable circumstances the patient was not operated on until noon.

At the operation a perforation was found on the anterior surface of the stomach of about the size of a threepenny-piece, nearer the greater curvature than the lesser, and about three-fourths of an inch from the pylorus. The pyloric end of the stomach was much thickened and there were some enlarged glands in the small omentum but the swelling did not seem to be of a malignant nature. The base of the ulcer was slit up with scissors through the perforation in a direction parallel to the long axis of the pyloric end of the stomach when it was found that the little finger could be easily passed into the duodenum. The ulcer was then partially excised. As its lower margin extended beyond the greater curvature it was thought better not to remove the whole of the thickened base of the ulcer in that direction. The edges of the incision were then united by a continuous catgut suture, passing through all the coats, so that the line of suture was at right angles to the pyloric axis. Owing to the rigidity of the tissues a fair amount of tension was needed to bring the edges together. A continuous silk Lembert suture was employed to cover in the catgut suture. The peritoneum was then well sponged out through the one incision, after which the opening was entirely closed. The patient's condition towards the end of the operation was too bad to allow a gastro-jejunostomy to be performed and it was thought that if he survived it could be done later if necessary.

For two days after the operation the pulse remained at about 120 and the patient complained of very severe pain in the epigastrium, probably due to the tension on the sutures

in the stomach. After this he steadily improved and soon declared that his stomach felt much better than before the operation. His temperature never rose above 99° F. He naturally lost weight for a time after the operation but as soon as he was allowed food he was always hungry. By June 13th his weight had risen to 122 pounds and when he left the infirmary on June 17th he felt better than he had done for years. Four months later he weighed 152 pounds, and though he said that the scar in the abdominal wall felt weak when he had to lift three-quarters of a hundredweight he maintained that his stomach was "all right inside."

Remarks by Mr. MOTHERSOLE.—There can be little doubt that in Case 1 there was a perforation of the stomach in December, 1900. This was probably small and became occluded with lymph which glued the stomach to the anterior surface of the spleen. Ulceration went on and eroded the spleen substance, and it appears certain that the frequent and severe hæmorrhages from which the patient suffered came from the splenic vessels. It does not seem that much could have been done for the patient by operation in August, 1903. The only operation that could have relieved her then would have been excision of the spleen with closure of the gastric opening. And in her condition at that time she could not have stood such a severe operation. In the light of after events it seems unfortunate that a more vigorous search was not made for the perforation in 1900, even to the extent of breaking down the limiting adhesions. This case shows the risks which adhesion of a gastric ulcer to another organ involves. It would seem advisable in most cases when a perforated gastric ulcer appears to have been occluded without operation to search for, and to excise, it in order to prevent subsequent trouble. Adhesion to a solid organ is likely to hinder healing of the ulcer by preventing contraction of the base.

In Case 3 we were fortunate in having the patient in hospital at the time of perforation and though the operation was not performed so soon as it should have been the patient did not have to suffer the pains and other drawbacks of a journey. The operation had the effect of a pyloroplasty and seemed entirely to relieve the gastric retention from which he suffered. It seems a matter for congratulation that a gastro-jejunostomy was not done when first proposed. If perforation had occurred shortly after the symptoms might have been attributed to the operation.

Recoveries after operation for perforating gastric ulcer have of late years been comparatively common and one almost feels it necessary to apologise for publishing such cases. Yet it is worth while to remember that ten years ago such recovery was almost unknown. Mr. A. W. Mayo Robson's first successful operation for this condition was in 1897. About 16 years ago two patients suffering from peritonitis were admitted to the wards of one of the largest London hospitals. Each was operated on by a distinguished surgeon but in neither case was the existence of a perforation of the stomach discovered until the post-mortem examination. Since then abdominal surgery has made immense progress. I must own to having had three unsuccessful operations for perforating gastric ulcer before I met with a success: one of these was very disappointing and lived for nearly a fortnight after the operation, dying from gastric hæmorrhage and hypophrenic abscess. It is satisfactory to be able to say that the last three operations which I have seen for this condition at the Bolton Infirmary have all been successful.[1]

I am glad to find that Robson and Moynihan in their book on "Diseases of the Stomach" speak so decidedly on the point of "absence of liver dulness" in perforating gastric ulcer. "Its presence or absence is void of any significance, and is unreliable as an aid to diagnosis." Personally, I have never attached any importance to the absence of this sign and in at least six cases have not found sufficient free gas in the peritoneum to give rise to it. It is conceivable that absence of liver dulness may be due to any one of three conditions: (1) distension of the intestines with gas, causing them to overlap the liver; (2) the presence of a certain amount of fluid in the peritoneum allowing the bowel to float up over the liver; and (3) free gas in the peritoneum. In the first of Mr. H. S. Clogg's interesting series of perforated duodenal ulcers[2] he states that the clinical phenomena pointed to the presence of free gas and fluid in the peritoneum, but on opening the abdomen he only says that fluid escaped. If no free gas was found at the operation the signs which were considered to indicate its presence were probably due to the presence of fluid with some distension of the bowels.

[1] Since writing the above we have had two more successful operations for perforating gastric ulcer at the Bolton Infirmary, making five consecutive recoveries. One of these was in a patient on whom I had done a gastro-jejunostomy two and a half years before.

[2] Brit. Med. Jour., Jan. 21st, 1905.

ROYAL BUCKINGHAMSHIRE HOSPITAL, AYLESBURY.

A CASE OF SURGICAL EMPHYSEMA RESULTING FROM A FALL.

(Under the care of Mr. HORACE ROSE.)

For the notes of the case we are indebted to Mr. Russell E. Palmer, house surgeon.

The patient, a boy, aged six years, was taken to the hospital with a history of a sudden fall over a step ten or 15 minutes previously. On admission his neck was very much swollen, the swelling extending up both sides of the face, and involving the lower right eyelid which could scarcely be opened. His respirations were 30, the pulse was 100, and the colour was good (although he was said to have been slightly "blue"). There was no wound involving the skin anywhere, the nose was uninjured, and there was no air in the pleural cavities. The swelling was soft, doughy, and gave the characteristic crepitus of air in the subcutaneous tissues. He complained at the time of the accident of pain over the trachea but afterwards of none in any particular region although he was tender over all the swelling. His voice was a little husky and he coughed but little, bringing up neither mucus nor blood. The emphysema extended rapidly and spread to the other eyelids, the whole of the chest wall, and part of the abdomen. The child was kept in bed, no special treatment being adopted. On the evening of the second day he developed a temperature of 104° F. but by the following morning it was normal again. The air was rapidly absorbed and the patient left hospital quite well at the end of a week.

Remarks by Mr. PALMER.—The explanation of the emphysema seems to be that in falling the head was thrown suddenly and violently back, rupturing part of one of the intertracheal muscles with the underlying mucous membrane, thus allowing the escape of air from the trachea.

Medical Societies.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on July 12th, Professor A. R. Simpson, Vice-President, being in the chair.—Dr. F. W. N. Haultain read a paper on a series of cases of "Axial Rotation" in its Relation to the Pelvic Generative Organs. He said that the abdominal pelvic organs from their moveable character were liable to rotation of their attachments. Out of 16 cases met with in pelvic abdominal surgery two were associated with uterine growths and in 14 the ovary was implicated. The 16 cases were composed of 12 simple ovarian tumours, one ovarian cyst with pregnancy, one normal ovary, one subserous pedunculated fibromyoma, and one rotation of the entire uterus with interstitial fibroid growth. Twists of the pedicle might for clinical purposes be considered as acute permanent, acute temporary, or chronic permanent. Rotation of the pedicle must interfere with the normal circulation of the affected organ, particularly obstructing the venous return, giving rise to all the conditions associated with venous congestion. In one case intense symptoms arose from a two-thirds axial uterine rotation, yet no acute symptoms arose in another case with a narrow pedicle twisted four times. The symptoms associated with twisting of the pedicle and acute strangulation were intense pain in the abdomen, shock, fever, and rapid pulse; these were the same symptoms as those of acute strangulation of the gut without stercoraceous vomiting. Chronic or slow twists might have none of these symptoms and only became apparent during the progress of an operation. Pain, though frequently met with, might be entirely absent, even with strong adhesions to the surrounding structures. Dr. Haultain gave details of a case where acute symptoms with a temperature of 101·5° F. were produced by a congested hard fibromyomatous tumour

closely attached to the uterus; the upper two-thirds of the uterus had been rotated two-thirds of a turn from left to right. Such a condition seemed to be rare. Cases had been reported by Homans, Bland-Sutton, Pick, Schwartz, Skutsch, L'Imbert, and Griggs. Twists of the pedicle of subperitoneal fibromyomata were more common; slight temporary twists might account for the paroxysms of severe pain to which these patients were subject and might be the cause of degenerative changes in the tumour. The symptoms produced by torsion might be simulated by an acute intracystic hæmorrhage, but with the latter there was no rise of temperature and it tended towards collapse. Frequently, however, intracystic hæmorrhage might be produced by torsion of the pedicle. The symptoms might also be difficult to diagnose from those accompanying a tubal abortion.—Dr. R. C. Buist (Dundee) communicated a paper by Dr. James Brownlee (Stockton-on-Tees) on the Germ Content of the Uterus and Vagina during the Normal Puerperium. It gave results of the examination of 20 normal puerperal women, the specimens being obtained on days varying from the second to the twelfth. No single specimen gave negative results throughout, yet of the 37 uterine specimens there were only three from two patients which showed a pathogenic organism—namely, the gonococcus. Of the 42 vaginal specimens only five showed pathogenic organisms—namely, thrice the gonococcus, once the bacillus coli communis, and once the staphylococcus pyogenes aureus, though the last was almost certainly a contamination. Of the cases with gonococci one showed a maximum temperature of 98·4° F. and the other a temperature of 99°. The case with staphylococcus pyogenes aureus had a normal temperature throughout, while the case with bacillus coli communis was also practically normal. The other organisms noted were cocci and bacilli of various sizes, the bacilli being rather more common and in many cases showing spores and involution forms; most of them grew both anaerobically and aerobically. No obligatory anaerobes were noted. This justified the conclusion that the lochia of normal puerperal women only exceptionally contained organisms capable of giving rise to puerperal septicæmia, but it was not to be inferred that they did not contain organisms which might on occasion give rise to slight fever. Dr. Brownlee's method of obtaining the vaginal secretion was by a glass tube of about five millimetres diameter attached to an aspirating syringe introduced into the vagina, an assistant holding the labia well apart. It had been proved that the use of a speculum resulted in contamination. For obtaining the uterine lochia he adopted Döderlein's method. The cervix was exposed, drawn down by volsella, and wiped dry with a sterile swab; then a glass tube, bent to suit the uterine curve, was introduced and the secretion was drawn into it by aspiration. This process almost invariably gave a plentiful supply of secretion. In the great majority of the cases the growths on the culture media were very much more profuse in the case of vaginal than uterine specimens. Gonococci might be found in the puerperal uterus, even in cases with an apparently normal course. As it had been amply proved that the normal secretions of the genital passages had distinct bactericidal powers, Dr. Brownlee considered douching before, during, or after labour as in all ordinary cases not only unnecessary but actually dangerous since it removed the secretions and lowered the resistance of these parts.—Professor Simpson and Mr. E. W. Scott Carmichael made remarks on the paper.—Dr. A. H. Freeland Barbour read a paper on Endothelioma of the Ovary and showed two specimens removed by operation from a patient, aged 42 years, who had been four times pregnant. She had complained of pain in the epigastric region for two years and had noticed a swelling in both iliac regions for six months. She died on the fifth day evidently from paralysis of the bowel. No post-mortem examination could be obtained. Dr. Barbour said that a total of 69 cases had been recorded.

DERMATOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on July 14th, Dr. J. J. Pringle being in the chair.—Mr. Malcolm Morris showed a series of three private cases for diagnosis, all members of one family living in South Africa. The symptoms common to the three cases were the appearance of warty growths in early childhood upon the face and hands. These growths spread at the edges, reaching the maximum within about a year and then slowly ulcerating left a depressed scar. Later in life at about the age of 12 years there was markedly increased growth of hair upon the face in all three children. The eldest of these, a boy now 19 years old, was most affected. The two next children of the family remained free but the two youngest, twin girls, were similarly, though not so severely, implicated. The faces and hands of all three were generally pigmented (freckled) and covered with small warts and scars. But the pigmentation did not precede the development of the warts. In other respects the children appeared well. Mr. Morris did not come to any diagnosis and Dr. H. Radcliffe Crocker, who had also seen the cases in private, considered that they fell into no known category of disease and were *sui generis*. Some members present suggested the possibility of these being anomalous examples of xerodermia pigmentosa but no unanimous conclusion was adopted.—Dr. Pringle showed: 1. A case of Lupus Erythematosus in a man, aged 32 years, the chief incidence of the disease falling on the lips and the mucous membrane of the mouth. The face had become affected four years and the lips and mouth three years previously. In addition to this disease the man had ordinary alopecia areata of five years' duration. 2. A case of Dermatitis Herpetiformis of exceptional severity in a man who had been shown to the society in 1902 and had become steadily worse ever since. At the present time he was entirely blind owing to the scarring of the conjunctivæ ("essential shrinking"). It was an interesting fact that he always became worse on the administration of arsenic.—Mr. Willmott Evans showed the following cases: 1. A case of Nodular Xanthoma, with Xanthomatous Striæ in the Lines of Flexure of the Hand and Wrist in a woman, aged 31 years, who had had the disease for 18 months. There was no glycosuria and no family history of the disease was given. 2. A case of Sclerodermia in Patches (Morphœa) upon the Back and Abdomen and Chest of a Woman, aged 52 years, who had had this affection for about ten months.—Dr. J. Galloway showed the following cases: 1. A remarkable case of Lichen Planus in which there was associated alopecia areata, and upon the bald surface of the head there was a characteristic pigmented patch of lichen planus. Upon the wrists there were typical papules of lichen planus. 2. A case of a Recurrent Erythema of the Face in a woman who for the last 11 years had had these symptoms every winter. For the first time this attack had persisted throughout the summer. It was suggested that lupus erythematosus might be the termination of the case.—Dr. Arthur Whitfield showed a case of Lichen Plano-pilaris of three months' duration in a woman aged 55 years. There was a copious follicular eruption occupying the seborrhœic positions of the body, with some plane lesions upon the legs.—Dr. Radcliffe Crocker dissented from the diagnosis and considered it to be an example of lichen spinulosus of Devergie.—Mr. Gerald Sichel showed (for Sir Cooper Perry) a remarkable case of Epidermolysis Bullosa in a man, aged 31 years. The disease had made its appearance at the age of two years and had persisted ever since. There was cicatricial alopecia over the greater part of the scalp, the tongue was rendered immobile by adhesions, the nails had been lost, and there were scars upon the hands, the feet, the elbows, the knees, and the face.—Dr. E. G. Graham Little showed: (1) a case of Lichen Spinulosus with very numerous symmetrical patches of grouped spiny plugs occupying the orifices of the pilo-sebaceous follicles. There was a large family of children but this case had so far not been followed by other cases; and (2) a case of Urticaria Pigmentosa dating from infancy in which only two lesions of that disease were present. One of the lesions had been excised and demonstrated to be urticaria pigmentosa.—Mr. George Pernet showed microscopical specimens of Moniliform Hair from the pubes.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on July 13th, Dr. William Alexander, the President, being in the chair.—Mr. R. C. B. Maunsell read notes of a case of Endothelioma of the Fundus Uteri. The patient, who was aged 40 years, complained of weakness, swelling of the lower abdomen, and discharge of fœtid pus from an opening below the umbilicus. Menstruation commenced at 15 years of age and was regular until December, 1902. Five children were born, the eldest being 14 and the youngest three years of age, all breast fed. The menses did not appear in December, 1902. One month later a swelling was felt below the umbilicus, forming a sinus opening on the surface in another month. The menses came on for five days five months later and had been absent since. The patient was thin and anæmic with hectic temperature and had a sinus 2·5 centimetres below the umbilicus discharging fœtid gas and pus. The lower

abdomen was occupied by a firm mass reaching from the pelvis to the umbilicus, filling the right iliac fossa, and extending slightly to the left of the middle line. On vaginal examination the left adnexa appeared normal; the right adnexa could not be palpated. The uterine cavity measured nine centimetres. The sound passed through the sinus into the abdominal mass for 15 centimetres, where it could be freely rotated and was readily felt in the right fornix. The diagnosis was sloughing myoma of the uterus. Cœliotomy was performed, dense adhesions were separated, and the uterus was removed by the supravaginal method with subsequent excision of the cervical stump. The patient returned home 25 days after the operation. There had been no recurrence and she now followed her usual occupation. On microscopical examination the tumour was shown to be an endothelioma of the fundus.—Dr. Mary Scharlieb showed a similar specimen of Endothelioma which presented a structure like that now described.—Mr. Maunsell also described a method of Ventro-suspension of the Uterus for Retrodeviations. The peritoneum was opened by a transverse incision, the uterus was drawn through, and the cut edges of the peritoneum were sutured with silk to the intestinal and vesical surfaces respectively. The uterus was then allowed to drop back, forming a funnel-shaped depression of the peritoneum; the sides of this depressed surface were then approximated by a few sutures passed from side to side through the fascia and subperitoneal tissue, thus obliterating any "dead space." The advantages claimed for the operation were that firm support was given without interference with mobility; that there was no interference with the bladder; and that during pregnancy the peritoneum would accommodate itself to the enlarging uterus and would contract after delivery without leaving any adhesions.—Mr. F. Bowreman Jessett said that in his opinion there was not much improvement in this operation over the usual one.—Dr. H. M. Macnaughton-Jones made a communication on a case of Post-operative Parotitis, advocating the use of cylin as an oral and intestinal antiseptic preliminary to operation as well as after. He also read notes of a case of Urethral Cyst which he considered to be congenital. The patient, who was 34 years of age, complained of pain and frequency of micturition. The cyst was removed from the vaginal wall and the urethra was opened, necessitating a plastic operation. Subsequently a glass catheter was used which broke in the bladder and was removed by suprapubic cystotomy.—Dr. Amand J. M. Routh said that he had successfully treated many cysts of the urethra by the actual cautery.—Mr. Jessett said that he used the galvano-cautery.—Mr. Jessett showed a specimen of Fibroid of the Uterus which had undergone cystic degeneration. The patient was aged 65 years. The tumour had been present for some years and lately began to grow rapidly. It was situated in the anterior wall of the uterus and contained one pint of fluid.

FORFARSHIRE MEDICAL ASSOCIATION.—The annual meeting of this society was held in Montrose on July 6th, Dr. Andrew Key (Montrose), the President, being in the chair. The following gentlemen were elected office-bearers for the ensuing year. President: Dr Robert Sinclair (Dundee). Vice-Presidents: Dr. David Lennox (Dundee) and Dr. George Peterkin (Forfar). Treasurer: Dr. William E. Foggie. General secretary: Dr. G. W. Miller. Reporting secretary: Dr. Charles Kerr; besides local secretaries for Montrose, Arbroath, and Forfar, and six members of council.—The President then gave a short criticism of the Act for the Notification of Infectious Diseases; and a dinner followed in the course of which Mr. George Halley (Dundee) was presented with a testimonial in recognition of his seven years' service as secretary.

CHILDREN'S COUNTRY HOLIDAYS FUND.—The Earl of Arran has issued an appeal on behalf of this fund, of which he is honorary treasurer. The object of the Children's Country Holidays Fund is to enable the children of the poorest London classes to obtain a fortnight's holiday in the country and through the generosity of the public some 35,000 children are sent to the country yearly. The number of applicants, however, far exceeds this average and the beneficent work of the fund is greatly impeded owing to lack of adequate financial support. All subscriptions will be gratefully received and acknowledged by the Earl of Arran, 18, Buckingham-street, Strand, London, W.C.

Reviews and Notices of Books.

Decennial Publications of the University of Chicago: Studies in General Physiology. By JACQUES LOEB, Professor of Physiology in the University of California. Parts I. and II. Chicago: The University of Chicago Press. London: T. Fisher Unwin. 1905. Part I., pp. 423; Part II., pp. 424–782. Price £1 11*s.* 6*d.* net.

THE name of Jacques Loeb is familiar not only to every physiologist but even to the man in the street, for he has had the insight and the daring to attempt the solution of problems in general physiology which lie at the very basis of the source and secret of life itself.

The volumes before us are a collection of papers on very diverse but cognate subjects, most of which appeared originally in German and are now translated for the first time. The general trend of the author's ambition in certain of the papers was to find the agencies which determine unequivocally the direction of the motion of animals, for he considers a complete knowledge and control of these agencies the biological solution of the metaphysical problem of animal instinct and will. From this conception grew the studies on "Regeneration," the author starting with the aim to find means by which one organ could at desire be caused to grow in place of another organ. Thus arose the experiments on "Heteromorphosis" which occupy 60 pages of the first volume. This problem branched out into that of "Fertilisation," with attempts to produce larvæ artificially from unfertilised eggs in various classes of animals.

It is almost impossible to give a concise account of the great amount of original work contained in these volumes, much of it being what the Germans call "Bahn-brechend"—i.e., opening up new fields and paths of investigation. The author's elaborate experiments, dating from 1889, on the Identity of the Heliotropism of Animals and Plants, are fully set forth and so are those on Geotropism in Animals (1891). Amongst the other papers are Organisation and Growth (pp. 191–252), Experiments on Cleavage (pp. 253–64), the Development of Fish Embryos with Suppressed Circulation, two papers on the Physiological Effects of Lack of Oxygen, Remarks on Regeneration, and an elaborate paper, Contributions to the Brain Physiology of Worms (pp. 345–69). The paper on Instinct and Will in Animals should be read by physiologists and psychologists alike, while that on the Limits of Divisibility of Living Matter brings us into contact with the most recondite problems connected with segmentation of the ovum.

The second volume contains 23 papers. The first deals with the Influence of Light on the Development of Organs, while there are several on the Physiological Effects of Ions, in which the author discusses his well-known views as to the power of ions to call forth rhythmical contractions in skeletal muscle and the different effects of ions upon myogenic and neurogenic rhythmical contractions and on embryonic and muscular tissue. This leads up to the cognate subject of "ion proteid compounds and their rôle in the mechanics of life-phenomena" and the "toxic and antitoxic effects of ions as a function of their valency and possibly their electrical charge." These questions glide easily into the following: "On an apparently new form of muscular irritability (contact irritability) produced by solutions of salts (preferably sodium salts) where anions are liable to form insoluble calcium compounds" and on "the production and suppression of muscular twitchings and hypersensitiveness of the skin by electrolytes."

The problems of fertilisation arise again and are discussed in the following papers: the Nature of the Process and Artificial Production of Normal Larvæ from the Unfertilised Eggs of the Sea Urchin, and on Artificial Parthenogenesis in Sea Urchins and in Annelids, and on the Life of

Unfertilised Starfish Eggs, and lastly in this group, the Methods and Sources of Error in Experiments on Artificial Parthenogenesis. On more general problems we find the question, "Why is the regeneration of protoplasmic fragments without a nucleus difficult or impossible?" The answer of the author is "that the nucleus is the organ of oxidation of living matter and that fragments of cells without a nucleus are not able to regenerate because their oxidative activity has fallen to too low a point. Such pieces die slowly from asphyxia." The author does not believe that without the nucleus all processes of oxidation cease in the protoplasm; it is only markedly decreased.

Amongst other questions of interest are the following. "Has the central nervous system any influence upon the metamorphosis of larvæ?" The author finds that in Amblystoma larvæ at least division of the spinal cord behind the cervical region did not have even the slightest effect in a single instance upon the processes of development. Akin to the subjects of heliotropism and geotropism is "The Theory of Galvanotropism" (1896), as exemplified on the polar stimulation by the constant current of the glands of the skin of Amblystoma. The author finds that stimulation always occurs at the anodal side of the central nervous system, an exception to Pflüger's law.

A short paper of four pages, entitled "Physiological Problems of To-day," is well worthy of perusal for its stimulating originality and condensed exposition of the fundamental problems of physiology, being the substance of an address delivered in 1897, when the speaker was limited to ten minutes.

This analysis of the chief contributions is all too short to convey an adequate idea of the wealth of interest set forth in these two handsome volumes. These "Studies in General Physiology" touch the bed-rock of the life-problem and present it from many aspects. It is not necessary to agree with the author in all his views; here can be no question that marked originality coupled with assiduous labour and inventive ingenuity characterise the work of Jacques Loeb. Imagination in the best sense of the word has played its part and subjects, at first sight far apart, have been brought together to yield their quota of evidence to support the views of the author. The students of biology, of physiology, and of psychology will find much in these volumes to excite their scientific imagination and to enlarge the horizon of their view of what is called "General Physiology," and each and all of these students must feel that the University of Chicago has conferred a boon on biologists, while "the men and women of our time and country who, by wise and generous giving, have encouraged the search after truth in all departments of knowledge," must rejoice that these decennial publications—issued in commemoration of the first ten years of the University's existence—form a noble record of work achieved and a happy augury of a rich harvest in the future.

LIBRARY TABLE.

The Annual Charities Register and Digest, 1905. London: Longmans, Green and Co., and the Charity Organisation Society. Pp. ccxxvi.–665, and Index. Price 5*s.*—We can find nothing to say about the fourteenth issue of this excellent work which we have not said about previous issues. Mr. C. S. Loch's introduction is as crammed with information as to the right and the wrong way of giving charity as ever. The body of the book contains details of all sorts and conditions of charitable institutions and organisations—both those rightly so called and a number of others which can hardly be called charities; while the index is a model of what an index should be. Armed with this work and some other of a less "official" type, such as "Charitable Relief," in the series entitled "Handbooks for the Clergy," it will be the almsgiver's own fault if he does not distribute his alms with zeal according to knowledge.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. The Specificity of Antivenomous Sera, with Special Reference to a Serum prepared with the Venom of the Daboia Russelli. By GEORGE LAMB, M.D. Glasg., Captain, I.M.S. New Series, No. 18. Calcutta: Office of the Superintendent of Government Printing, India. 1905. Pp. 18. Price 6 annas (or 7*d.*).—From the experiments recorded in this communication Captain Lamb says that the following conclusions may be drawn: 1. By injecting a horse with pure unheated daboia venom an anti-serum for this poison has been obtained. This serum is of considerable strength and has a marked neutralising effect on all the actions of daboia venom both *in vivo* and *in vitro*. It should be of considerable therapeutic value in cases of bites from this snake. 2. The serum thus obtained is markedly, but not strictly, specific *in vivo*; it had no action on the poisons of five colubrine snakes against which it was tested; it has a certain neutralising action on the venom of crotalus adamanteus but has no effect on the venoms of two other vipers—namely, echis carinata and trimeresurus gramineus. 3. When tested *in vitro* against the hæmolytic actions of the various poisons it is found that this serum has no neutralising effect on this action of any colubrine venom, that it neutralises the venom of echis carinata as well as it does that of the poison with which it is prepared, that it has a marked but not equally great effect on the venom of crotalus adamanteus, and that it has no neutralising action on the venom of another viper—namely, trimeresurus gramineus. Further, when tested *in vitro* against the fibrin ferment actions of various poisons it is found that, while this serum neutralises well its homologous venom, it has no effect on the poisons of four other species, one colubrine and three viperine—namely, (1) hoplocephalus curtus; (2) echis carinata; (3) trimeresurus gramineus; and (4) crotalus adamanteus. 4. These observations confirm the conclusion which was previously arrived at and which receives the support of Noguchi's observations—namely, that an antivenomous serum is markedly, but not strictly, specific and that in treating any case of snake bite the homologous serum must be used.

Lessons on Living. A Reading-book in Physiology and Hygiene. By H. ROWLAND WAKEFIELD, Science Demonstrator, Swansea School Board. London: Blackie and Son. Pp. 240. Price 1*s.* 6*d.*—Nos. VI. and VII. of Blackie's Science Readers are included in this little volume which is one of a series especially adapted for use in schools in which elementary science is taught as a class subject. The present volume contains simple and informal lessons in physiology and hygiene, the instruction being elaborated from a series of incidents in the holiday visit of some boys to the country house of a physician in a delightful village. The lessons are full of interest and are given in a clear and readily assimilable way. The book is well illustrated, it is very attractive, and we wish it a wide circulation. It may be read with advantage by all young people.

Hints to Nurses on Tropical Fevers. By S. F. POLLARD, Sister, Army Nursing Reserve; late Sister, Guy's Hospital. London: The Scientific Press. Pp. 57. Price 1*s.* 6*d.* net.—This little book will answer a useful purpose and will be of considerable benefit to nurses who are going to the tropics. It touches on subjects which are not generally discussed in nursing manuals. The first chapter, "Hints on Going Abroad," is a very sensible one and the advice given in it may be followed safely. The diseases which are considered from a nursing standpoint are malaria, dysentery, abscess of the liver, cholera, bubonic plague, beri-beri, yellow fever, malta fever, dengue, typho-malaria, and prickly heat. The special points to which the attention of nurses is directed

are carefully selected and considered and the recommendations made are judicious. The little book may well form part of the equipment of a nurse under orders for the tropics.

Electrical Methods in the Treatment of Affections of the Stomach and Intestines: A Practical Manual for Students and Practitioners. By GEORGE HERSCHELL, M.D. Lond, London: A. Siegle. 1905. Pp. 103. Price 3*s.* 6*d.* net.—The origin of this little book was a series of papers in the *Journal of Medical Electrology and Radiology* from January to July, 1904. The book is not intended for the expert but for the increasing number of medical men who have become interested in the subject. The articles are, therefore, of an elementary character and special attention is devoted to apparatus well within the reach of the general practitioner, but it is assumed that the reader has made himself acquainted with the elementary facts of electricity. Dr. Herschell writes that in the disorders of the digestive system electricity is capable of producing the following results when applied by certain definite methods:—1. It can cure many forms of neurasthenia depending upon defective metabolism, and in consequence some functional dyspepsias associated with it. 2. It will restore tone to the nerve supply of the stomach and intestines and is in consequence the best method with which we are at present acquainted of treating gastric neurasthenia pure and simple. 3. It will diminish the secretion of hydrochloric acid in the gastric juice when in excess. 4. It will diminish hyperæsthesia of the gastric mucous membrane. 5. It will promptly cure certain forms of gastralgia and epigastralgia. 6. Slight degrees of gastric myasthenia can be absolutely cured and the severe form usually much improved—that is to say, retention myasthenia can be often converted into myasthenia without retained food débris. 7. In certain cases of functional hypochylia and anachlorhydria the secretion of gastric juice can be re-established. 8. Constipation depending upon intestinal atony can in most cases be either materially relieved or cured. 36 pages are devoted to clinical histories illustrative of the results which may be expected in properly selected cases.

The Rôle of Modern Dietetics in the Causation of Disease. By J. SIM WALLACE, M.D., D.Sc. Glasg., L.D.S. R.C.S. Eng. London: Baillière, Tindall, and Cox. 1905. Pp. 87. Price 2*s.* 6*d.* net.—This book is a collection of essays which have appeared in the various medical and dental journals. Throughout the work the author insists on the necessity of feeding children in an intelligent and natural way and he shows that many ills are distinctly traceable to defective feeding. Dr. Wallace enters a protest against the excessive use of sugar, remarking that "it has become the fashion to belaud the dietetic value of sugar and to look upon it as an important food," while in reality it should be sparingly used and regarded as a condiment." The value of milk in the diet of children has, he considers, been largely over-estimated and should be recognised as an extremely unnatural food for children over or about the age of two years. He advocates a less highly nutritious diet and a more liberal supply of acid fruits of bitter, pungent, and stimulating principles. Further, each meal, he urges, should contain a large amount of solid matter so as to stimulate the mastication. The book is well worthy of perusal, even though the reader may not be in accord with all the author's conclusions.

JOURNALS AND MAGAZINES.

Bristol Medico-Chirurgical Journal.—The June number of this journal contains some interesting papers. Dr. J. Michell Clarke calls attention to some of the symptoms of Cerebellar Tumours, especially deafness and other disturbances of hearing. Dr. Henry Waldo deals with the Causation and Treatment of Baldness which he connects with seborrhœa and infective conditions attacking the scalp. Dr. Charles Begg in a short article on Sprue records some good results attained by the use of santonin which must be of the yellow variety produced by the action of light upon the drug.

Edinburgh Medical Journal.—The July number contains an article by Dr. G. A. Gibson upon Bradycardia which has already done duty as a paper read before two societies, the British Medical Association and the Edinburgh Medico-Chirurgical Society. Dr. P. McBride writes upon some cases of Sudden Onset of Cephalic Bruit and Deafness, due apparently to aneurysmal dilatation of a cerebral vessel. Dr. Karl J. Fürth and Dr. F. Parkes Weber record a case of Malignant Endarteritis of the Pulmonary Artery occurring after Gonorrhœa, in which a fungating patch was found in the vessel after death. This lesion, which was the only one found, seemed hardly sufficient to explain the existence during life of a long diastolic murmur heard over the pulmonary region. Streptococci but no gonococci were found in the vegetations. In the concluding Morison lecture Dr. John Macpherson emphasises the need for psychiatric departments at general hospitals and also for an extension of the boarding-out system of treatment for many chronic cases.

West London Medical Journal (July).—In the Cavendish lecture upon Diseases of the Heart Dr. James F. Goodhart deals, with his usual common sense, with a number of conditions which may give rise to suspicion of cardiac disease but which are in reality "functional" in character. The article is well worth careful study by all medical men and especially by those who have much to do with life insurance work. Dr. W. H. B. Stoddart contributes an interesting paper on the Recognition and Treatment of Mental Disorder in Private Practice and gives some useful advice as to dealing with such cases.

New Inventions.

A SPOON-ELEVATOR FOR RAISING THE PELVIC FLOOR.

Dr. J. G. Garson in 1878 made an important communication to the *Edinburgh Medical Journal* upon the Displacement of Bladder and Peritoneum by Distension of the Rectum. Soon afterwards the suprapubic operation for removal of vesical calculi was resuscitated and for a time Petersen's bag enjoyed great popularity for lifting the base of the bladder by distending the rectum; it was also used in operations for removal of vesical tumours but before long it was discovered that its use was not devoid of danger and that it also caused increased congestion of the bladder by its pressure on all the blood-vessels of the rectum. Owing to the recent successful introduction of the operation of removal of the prostate by the suprapubic route, the surgeon has often wished he could supplement fingers in the rectum by an instrument which would answer the same purpose, although Dr. Eugene Fuller is able to perform his prostatectomies with marked success by simply pushing his closed fist against the perineum. Nevertheless many surgeons feel that it is necessary to raise the prostate by fingers in the rectum, either the operator's or those of a skilled assistant, in order that improved conditions may be obtained for rapid enucleation of the gland; on one occasion I had the privilege of seeing Dr. Proust assist Professor Tuffier in such circumstances, but such skilled assistance is rarely available.

Messrs. Weiss have made for me a spoon which answers this purpose admirably. The illustration shows its chief mechanical points. The spoon is of the sixteenth and seventeenth century shape and is four centimetres across at its widest part. The spoon and the straight handle, which are inserted into the rectum, are made to imitate the length and breadth of two long and large fingers inserted

into the rectum. The crank handle is made for the purpose of having the instrument conveniently at hand for manipulation in front of the patient's thigh. The curved processes, one on each side of the handle, are for the purpose of preventing the instrument rolling between the patient's thighs when the surgeon is not using it. As soon as the bladder is opened the spoon is passed into the rectum and the patient's thighs are approximated; under these conditions it will remain *in situ* and quite out of the way. The surgeon can perform all the necessary manipulations without infecting his hands and the instrument answers the purpose better, I think, than the fingers of an assistant in the rectum, because the operator acts directly on the spoon; he can push it up or draw it down to the exact position at which he requires the rectal counter-pressure; it can also be tilted to either side so that elevation of any particular area of the base and posterior wall of the bladder can be regulated to a nicety, for every movement of the handle is transmitted directly to the spoon as it is specially made in one solid piece for that purpose. I have used it in three prostatectomies and in one case of evacuation of blood clots completely filling the bladder. In the latter case the clot was cleared out through a suprapubic wound with great ease and rapidity by means of the spoon in the rectum and suprapubic massage of the abdomen. In a case of prostatectomy upon a friend of Dr. W. T. Edwards, J.P., I was able to remove 47 calculi from a large post-prostatic pouch which I could not otherwise reach with my fingers. In one of the other cases there was a calculus weighing two ounces and its delivery was facilitated by using the spoon in the rectum. In operations upon the female pelvis I introduce the spoon into the vagina and it remains *in situ* until required for lifting the uterus, Douglas's pouch, or the bladder. The particular point at which lifting of the pelvic floor is required is easily obtained. In a case of coeliotomy for soft, friable, and separate malignant growths of both ovaries secondary to carcinoma of the stomach I found it very useful as the tumours would not withstand any traction upon them for delivery. The face of a hysterectomy or of an ovarian stump can be easily manipulated so as to give a better view for its inspection by means of the spoon in the vagina. The reason that I record my short experience of the uses of the spoon is due to the fact that Messrs. Weiss informed me that they had sold several of them after I referred in a PS. to a paper on Prostatectomy to the fact that I had used such an instrument. The instrument which I had used at that time and those which have been sold are only three centimetres wide, but in practice I soon found that this was not broad enough for cases of enlarged cervix uteri or of a very big prostate to hold them firmly during lifting of the pelvic floor, as they had a tendency to slip over to one side. The instrument which is described above is four centimetres wide and is more satisfactory on account of its increased breadth.

Cardiff. J. LYNN THOMAS, C.B., F.R.C.S. Eng.

AN ADENOID CURETTE.

THE use of a curette for the removal of naso-pharyngeal adenoids, in preference to the various forms of post-nasal forceps, has now become almost universal. Most surgeons who have been performing this operation for more than ten years commenced with some form of Loewenberg forceps and have gradually discarded it for the curette. The curette removes a growth so rapidly and completely that the time occupied is very short and the risk from hæmorrhage is greatly lessened. For those whose dexterity is not maintained by frequent practice the curette is also a much safer instrument. Once introduced behind the soft palate and carefully maintained in the middle line of the body it can be swept backwards and downwards along the naso-pharynx without the slightest risk of wounding any important structure except the projecting adenoid mass. I have never known of any operator reverting to the older instrument when once he became used to a satisfactory form of curette. The original Gottstein form, although it detached the growth, had the drawback of not bringing it away, while there was some anxiety of the detached adenoid mass embarrassing the respiration. This objection was overcome by Delstanche's ingenious idea of connecting a hinged and toothed cage to the curette so as to receive the growth. As fitted to the original Gottstein model the toothed cage did not always appear to give sufficient space fully to receive the growth; it became too "crowded," in fact. Besides, the Gottstein form, to which it was attached, ends below in a V point, so that much of the lateral masses of a large square growth might easily escape the first stroke. The Beckmann curette, with its quadrilateral fenestra, and its curve adapted to the roof of the naso-pharynx, is better suited to embrace the adenoid mass. To this curette I have had fixed a hinged,

spring frame, armed with short curved teeth set close together. This will admit a mass of any size and will prevent it from falling out of the curette. For the usual light handle I have substituted a more solid one, which can be grasped dagger-wise. Held in this position it is easier to keep the instrument all the time in the middle axis of the body; there is no uncertainty as to where the cutting edge exactly is when out of sight (which may happen if the curette is held like a pen, when it may easily become rotated in the fingers), and the growth can be more completely shaved off by one firm stroke. When the main growth has been removed an ordinary small Beckmann curette (18 millimetres across), fitted with a stout handle, will be found satisfactory for removing any lateral prolongations which have escaped the caged instrument. Thinking that better work could be done the larger the instrument employed I tried various sizes, including one measuring one inch across. But this proved useless, and one stock size, measuring three-quarters of an inch (20 millimetres) across, has been found the most satisfactory for all well-marked hypertrophies. A smaller curette, measuring 18 millimetres across, can be used for more limited growths, but the ordinary size is quite suitable for children three years of age, as well as for adolescents, the choice of instrument depending more on the size of the hypertrophy than on the age of the patient. This instrument was designed about eight years ago. I am informed that it is the one most generally used in the two chief throat hospitals as well as in many of the special clinics of the general hospitals. It is manufactured by Messrs. Mayer and Meltzer who report that they sell more of this model than of any other. It has therefore had an extensive trial before I ventured to bring it before the profession.

Queen Anne-street, W. STCLAIR THOMSON, M.D. Lond.

ROYAL PORTSMOUTH HOSPITAL. — A bazaar, under Royal patronage, which extended over four days, was opened by Lady Northbrook at the Town Hall, Portsmouth, on July 11th. Apart from its success as a bazaar the effort will stand out prominently in the annals of Portsmouth, for it took also the form of a celebration of the centenary of Nelson's great and glorious victory, and the navy and army, with the representatives of civilian life, peacefully observed it by doing all in their power to increase the mayor's fund for building a new operating theatre and a block of wards at the Royal Portsmouth Hospital. It is expected that a sum of £1800 will be realized.

THE LANCET.

LONDON: SATURDAY, JULY 22, 1905.

Small-pox Hospitals in Rural Districts.

THE difficulty of adequately isolating cases of small-pox in thickly populated districts has been the subject of much discussion during the last few months and we have recently devoted two leading articles to the matter in THE LANCET.[1] But it has to be borne in mind that the difficulty of providing isolation accommodation for cases of this disease is in no sense confined to thickly populated urban districts. In so far as actual hospital provision is concerned the problem is more acutely felt in rural than in urban districts, owing more particularly to the smaller rateable value of rural districts. But all rural districts are not thus affected equally and it is in counties where general slackness in sanitary administration obtains and where that slackness is faithfully reflected by the county council that small-pox hospitals are but very inadequately, if at all, provided. An instructive example of this unsatisfactory state of affairs has recently been brought to our notice and although all the facts have not been set before us the main features stand out with sufficient prominence. The Leighton and Linslade urban, and the Wing rural, district councils in their anxiety to insure these districts against an invasion of small-pox combined for the purpose of providing a small-pox hospital. This building was duly procured and erected upon a site held apparently on a yearly lease and now, for some reason which has not come to light, the Wing rural district council has expressed its intention of withdrawing from the combination, there being, it would seem, no clause in the agreement which prevents it from doing so. The result is that the hospital will probably be sold to the highest bidder, together, we presume, with such small-pox infection as may cling to it, and the three districts concerned will be left without any provision for cases of small-pox. This impending dissolution of the combined districts has caused considerable discussion at the meetings of the joint committee and of the Leighton Buzzard board of guardians; and although the folly of the proposed dismemberment of the committee has been insisted upon by some of the more far-seeing members, the general tendency seems to be to let the districts look after themselves and to allow small-pox, should it be introduced, to run riot. The board of guardians has apparently contemplated the purchase of the hospital but, as was pointed out to it by its clerk, it is doubtful whether the purchase would be sanctioned by the Local Government Board or, if sanctioned, whether the hospital could be used for non-pauper cases. The Local Government Board holds, we believe, that it is the duty of the district councils to make the necessary provision for isolation accommodation and that it behoves the boards of guardians, when such provision is made, to arrange with the district council or councils for the isolation of pauper cases. We can only trust that in this instance the Wing rural district council will not, for a matter of some £16 annually, deprive its own district of the protection which the hospital obviously affords.

But the discussion which has arisen around this subject has resulted in other suggestions being made and as these have interest to the country as a whole reference may be made to them. It was proposed by a member of the Leighton board of guardians "that it is expedient that small-pox hospitals should be built and maintained from funds from the national exchequer," and the proposer contemplated that if some 50 hospitals were erected in different parts of the country the total annual cost would amount to between £50,000 and £100,000, an amount which, in his view, was much exceeded at the present time. Part of this proposal was that motor ambulances should be provided, an arrangement which, it was urged, would enable each hospital to serve a large area. Question arose as to the suitability of motor ambulances for this purpose and, as our views are asked upon the subject in the local press, we may say that we see no objection whatever to such ambulances for small-pox provided, of course, that they are properly constructed and not driven at a speed which would be detrimental to the patients. But we are in no sense in sympathy with the proposal that the cost of small-pox hospitals should be borne by the national exchequer and we see no reason why this disease should be regarded in an economical light differently from other infectious diseases. There is already ample power to provide such hospitals and we are surprised to find in the papers which have reached us in connexion with this specific instance that no reference is made to the powers which are possessed by the Bedfordshire and Buckinghamshire county councils (the two councils concerned) for the compulsory combination of districts under the Isolation Hospitals Act, 1893, and if these two county councils are alive to their responsibilities they will, it seems to us, turn this incident at Leighton Buzzard to good account by taking steps to recombine or to group the districts of the joint committee by schemes which would embody such districts if the union is discontinued. As regards the mover of the proposal that small-pox hospitals should be a charge upon the national exchequer we must confess that we should be more in sympathy with him if he would use his strong personality to propose and to see carried a motion "that the National Assembly at Westminster should place on the Statute-book a measure for enforcing general revaccination and by this means render special small-pox hospitals unnecessary." In this connexion we commend to the guardian in question a perusal of Dr. R. BRUCE LOW'S recent report to the Local Government Board upon small-pox hospitals in Germany. He will learn from this report that owing to the protection afforded by vaccination and revaccination there is no need in the Fatherland for the provision of expensive small-pox hospitals but that when cases of this disease occur they are treated as a rule in one of the buildings of the general isolation hospitals.

[1] THE LANCET, June 3rd (p. 1520) and 10th (p. 1589), 1905.

The Teaching of Hygiene in India.

WHEN we consider the high pitch of civilisation which has been reached by some of the ancient races of man it is not to be wondered at that they should have framed for themselves codes of sanitary laws but it is somewhat surprising that these codes should have contained rules so nearly analogous to those which are the result of modern scientific knowledge. The Bible has familiarised us with the sanitary code of the Hebrews and archæological research has shown us that other Eastern nations were no less advanced in the knowledge of hygiene and sanitation. In the later part of the eighteenth century and the beginning of the nineteenth some accurate knowledge of the Aryan people of India was made accessible to us by the labours of such men as Sir WILLIAM JONES and HENRY THOMAS COLEBROOK and from this time, both in this country and abroad, considerable attention has been paid to the literature of this ancient people. Among a people who had reached a high degree of civilisation and in a country where the climatic conditions were particularly favourable to the propagation and the spread of diseases disseminated both by air and polluted water, we find, as might be expected, that the priestly class, who were the learned men of the time, had laid down rules for the avoidance of disease and the preservation of health. Had the Laws of Manu been fully understood and applied by the later inhabitants of India there can be no doubt that that country would have been less afflicted than it is by many dread diseases—cholera and plague for example. But in India, as in many another country, the wise regulations laid down by the priestly caste for the guidance both of mind and body have been perverted and their original meaning has been forgotten, so that ceremonies which formerly had a meaning and a reason are now become for the mass of the people such that they but "confound and darken" counsel. Even now if the natives could be made to understand the real meaning of the ceremonies which they go through with such superstitious reverence not only would the more ignorant benefit but also the educated people of their own and other nationalities who occupy the country with them.

There are already in existence many societies the object of which is to harmonise the philosophy of the East with the science of the West, a task which, for the present at any rate, seems to be an impossible one; but there is another movement on foot and one from which, if carried out with discretion, great good may accrue—namely, the attempt to educate the less intelligent of the natives of India in the practice and principles of Western hygiene and sanitation by showing them the relation between modern science and the rules laid down in their shâstras. From the office of an Indian periodical, called the *Arya*, a monthly magazine devoted to philosophical literature and science, published in Black Town, Madras, we have received three little pamphlets, reprints from the magazine, the first of which treats of water and health by Dr. P. S. CHANDRASEKHAR of Madras Medical College, showing that the Indian sacred writings contain many passages in strict accordance with modern sanitary science, and the second by the same author dealing with personal cleanliness on similar lines. The third pamphlet, "Notes on Ancient Sanitation," written by Colonel W. G. KING, C.I.E., I.M.S., sanitary commissioner of Madras, shows how the methods of purification adopted by the religious leaders of the ancient Hindoos may be made to harmonise with the teachings of modern science, though the author rightly points out that it is well to remember that these teachings were not meant for municipalities of modern times but for individuals who were scattered throughout the land living agricultural or pastoral lives of much simplicity and by no means grouped in well-populated centres, as at the present day. It is remarkable how these methods utilised natural processes recognised by modern science as due to chemical combination and microbial action. The rules against the practice of breaking clods of earth and tearing grass with the finger-nails might well at the present day be directed against the propagation of the ankylostomum; the direction to the householder to give food very hot would tend to kill microbes and to mitigate the results of contamination by exposure to the air; and the prohibition against the use of food that had been touched by the human foot or by the beak or the feet of birds would help to prevent contamination by disease germs. Perhaps the most remarkable testimony to the wisdom of the old Aryan teachers is to be found in their rules with regard to the use of water. The test of smell, colour, and taste seems to have been recognised early, as was also the possibility of contamination if collected in an inhabited area. The directions against answering to the calls of nature on the banks of, or in, rivers and the ruling "let him not throw urine or fæces into the water, nor saliva nor clothes defiled by impure substances, nor any other impurity, nor blood, nor poisonous things," though disregarded by many of the lower class of Hindoos of the present day, show that their ancestors were possessed of wisdom. No better example of the way in which this ancient wisdom has been perverted by the ignorance of the less educated natives can, perhaps, be given than their belief in the purity of running water. The shâstras teach that a river is purified by its flow, a truth which is in accord with modern science, but many a Hindoo superstitiously holding this belief without understanding its meaning will defile water in the grossest manner and not hesitate to use it for domestic purposes, notwithstanding the fact that just above the site of withdrawal the accumulated filth of all classes and castes is being discharged. Colonel KING'S pamphlet is full of interest even to the general reader but we have not space to refer to it further except to say that he deals with the Mahomedan writings as well as with those of the Hindoos.

It should not, then, be difficult to teach the less intelligent of the present-day inhabitants of India that the ancient Hindoos and the early Mahomedans were well acquainted with sanitary and hygienic knowledge which has been perverted by their descendants and to show the absurdity of regarding our present teaching as the offspring of a Western craving for the introduction of new fads. Quotations from the Vedas and the Laws of Manu have been, we believe, reprinted and used with good effect during the recent epidemic of plague. If Colonel KING and those who are working to the same end can convince the less intelligent natives, quote the closing words of the pamphlet, that "it

is worth remembering ..... when plague surrounds us ..... that the people who will carry sanitation into their homes and as good citizens uphold it in public must reap health and wealth, and that the penalty of neglect of sanitation is financial ruin and death as proved by the history of every people who have had the temerity to ignore it"—if he and they can do this they will have given a priceless blessing to India and the reward will be great.

Medical Men in the Armies of the Ancients.

THERE does not appear in the Roman classics any very distinct allusion to medical men in the Roman army. The only passages relating at all to the subject consist of a casual remark in one of the military epistles of AURELIAN, two incidental legal observations contained in the law writings of MODESTINUS and in the Codex of JUSTINIAN, an allusion by VEGETIUS to the medical care and expense of the sick in camp, and an expression by GALEN as to the opportunities for anatomical observation presented to the physicians during the German wars. When treating of those who by absence from Rome, and so on, were exempted from some burdens and taxes the jurist MODESTINUS, who wrote in the earlier half of the third century, mentions among others the military physicians (*medici militum*), "because," he adds, "the office which they fill is beneficial to the public, and ought not to be productive of any injury to themselves" ("Corpus Juris Civilis Digestorum," Lib. IV., Tit. 6, Leg. 33, Sec. 2). In JUSTINIAN'S "Corpus Juris Civilis" (Lib. X., Tit. 52), drawn up in the sixth century, there is a series of laws, "De Professoribus et Medicis." The first of these laws exempts the physician of a legion (*Medicum Legionis*) from civil duties when he is absent in the public service. In his work, "De Re Militari," VEGETIUS, who wrote towards the end of the fourth century, devotes a chapter (Lib. III., cap. 2) to the regulation of the health of an army, and incidentally rather than directly alludes to the cure of sick soldiers by the skill of the physicians (*arte medicorum*). Enumerating also elsewhere the duties of the prefect of the camp he states that his authority extended over his sick fellow-soldiers and the physicians who had the care of them and he regulated the expenses relative thereto (Lib. II., cap. 10).

The history of other more ancient governments than that of Rome is not without allusion to the office of army surgeons. HOMER, HERODOTUS, and PLINY each comment on the number and fame of the medical men with which the kingdom of Egypt abounded. DIOGENES LAERTIUS, in his account of PLATO, tells us of PLATO'S sickness when travelling in Egypt and adds that he remarked, like HOMER, that the Egyptians were all physicians. They had, moreover, paid medical officers attendant upon their troops in war, for in describing the status and character of the Egyptian physicians DIODORUS SICULUS specially mentions that, when engaged in military expeditions, the soldiers were cured without fees, the physicians of the army receiving a salary from the State. One instance is referred to in history in which a king of Egypt, when thrown from his horse in battle, wounded and speechless from injury of the head, had his skull trephined by his surgeons. This was PTOLEMY PHILOMETER, who defeated ALEXANDER BALAS, the pretender to the throne of Syria, in the year B.C. 146. According to LIVY the victor himself died after the battle during the attempts of his surgeons to relieve him. Nor is the old classical literature of Greece without references to surgical services rendered to the soldier in war. HOMER describes the double character of army surgeons and warriors as combined in the persons of PODALIRIUS and MACHAON. And when the latter is wounded he puts into the mouth of IDOMENEUS the well-known expression ("Iliad," Lib. XI., v. 514) that the medical man is to the army more valuable than many warriors, knowing as he does how to excise arrows and to apply soothing medications. In the course of the "Iliad" the surgical treatment followed in individual cases among the disabled Greek warriors is sometimes minutely entered upon; and thus the different modes of operation by which the transfixing arrow, dart, and lance were in those early days of surgical science removed from the bodies of the wounded may sometimes be gathered from HOMER'S lucid and minute descriptions. He mentions three different methods at least by which the weapons of war were extracted—viz., first, by evulsion or traction of the weapon backwards, as in the case of MENELAUS ("Iliad," Lib. IV., v. 214); secondly, by protrusion or pushing of the instrument forward, as in the case of DIOMEDES (Lib. V., v. 112); and thirdly, by enlarging the wound and cutting out the weapon, as was the practice of PATROCLUS in the case of EURYPYLUS (Lib. XI., v. 218). In his semi-historical or political romance, the "Cyropædia" (Lib. I., cap. 6, Sec. 15), XENOPHON makes his young and royal hero CYRUS, the founder of the Persian monarchy, speak, among other matters, of the importance of medical officers being attached to armies. "With respect to health" (says CYRUS), "having heard and observed that cities that wish health choose physicians, and that commanders for the sake of their soldiers take physicians, so when I was placed in this command I immediately attended to this point, and I believe that I have men with me that are very skilful in the art of physic."

In the earlier periods of Roman history and Roman warfare the treatment of the military sick and wounded was in all probability intrusted to the casual care of some fellow-soldiers whose tastes and inclinations had led them to pay more than usual care to the rude surgery which existed at the time. As early, however, as the commencement of the Christian era we find CELSUS laying down distinct and in many instances very excellent and practical precepts for the extraction of weapons of war from the bodies of the wounded. But neither in CELSUS nor in any other ancient medical work is there allusion to surgeons or physicians being regularly appointed as army medical officers in the Roman army for the purposes of superintending the treatment of the wounded, or of taking professional care of the soldiers disabled by sickness, whose number in ancient days was, as it now is, much greater than the number of those disabled in fight. We know from the oft-repeated anecdote regarding ARCHIGENES, as told by PLINY, that in the early days of republican Rome the practice of medicine was not encouraged among the inhabitants of the Eternal City. But in the later periods of the empire there was an abundance of native and foreign physicians in

Rome. When the Emperor SEPTIMIUS SEVERUS determined to subdue the whole of Scotland he, about the year A.D. 208, led an army of not less than 80,000 men across the Forth, marched them north, apparently as far as the Moray Firth, and thence returned to York. But though in this course the Roman Emperor nowhere met the enemy in open fight, he is stated to have lost in this single campaign not less than 50,000 of his troops. It is to be expected that common experience and losses such as SEVERUS sustained by disease would have suggested to the Romans the propriety of increasing the strength and success of their armies by having medical men to watch over the health of the soldiers who were fighting in so many different regions around the Roman standards. Some modern discoveries in Great Britain and elsewhere show that such a conjecture is not at variance with truth and that the Roman armies were provided, at all events in the time of the empire, with a medical staff although CELSUS does not happen to allude to the circumstance.

Annotations.

"Ne quid nimis."

THE SHALLOW WELL AND ITS WATER.

NOTWITHSTANDING the steady progress which is being made in most parts of the country in general sanitation the shallow well may still be found to be supplying with drinking water a very considerable proportion of the population and this is more particularly the case in rural and in small urban districts. Of these latter the Stowmarket urban district is a noteworthy example and the facts disclosed by Dr. C. W. Low, the medical officer of health, place a serious onus upon the local district council. Of the 118 wells, which are practically all at present in use, no fewer than 103 showed signs of recent pollution and are therefore, in the opinion of the medical officer of health, unfit for domestic use. The report which contains these very striking facts does not tell us whether the wells in question form, exclusively of rain water, the only supply of drinking water to the people of Stowmarket but it is to be inferred that this is the case. The pollution in the majority of instances appears to be considerable and the variation in the amount of chlorine in the different well waters seems to prove conclusively that the pollution is due to organic matter. In a sense Dr. Low is in an exceptionally fortunate position as regards the wells in his district, since he has pointed out in previous annual reports that "through the faulty construction of the shallow wells in Stowmarket and their dangerous surroundings the water in these wells is liable to pollution, especially after heavy rains, and is therefore in all cases an unsafe, and in many cases a very dangerous, source of supply for domestic purposes." It would, however, be possible for very many medical officers of health to write in similar terms of the shallow wells in their districts but few officers have, we think, been fortunate enough to find practically all such wells actually polluted when the waters have been submitted to chemical examination. Indeed, the Stowmarket experience in this respect stands, we expect, almost, if not quite, by itself, a circumstance which may possibly find explanation in the fact that the waters were examined during an exceptionally dry season. Clearly these wells ought to be closed by virtue of the fact that all of them are dry steened, unprotected from surface pollution, and presumably in dangerous proximity to pervious cesspools, but it is a little difficult to know, assuming that these wells are the only sources of supply, whence a satisfactory supply is to be procured pending the establishment of public works. If, however, there is already a satisfactory public supply there should not, in all the circumstances, be any serious difficulty in persuading all the holders of polluted wells to substitute the public supply for their polluted wells. But it has to be borne in mind that possibly analyses procured specifically for the purpose of taking legal proceedings may not yield such uniformly unsatisfactory results as analyses made during a remarkably dry period. No doubt, however, the wells most obviously liable to pollution would be taken first. What is urgently needed is a modification of the existing laws relating to the closure of wells obviously liable to pollution by the insertion of the words "likely to be so polluted ..... or dangerous to health" into the Public Health Act, 1875. It is a regrettable fact that in many parts of the country eminently unsatisfactory shallow wells are actually being provided at the present time and in only a few districts are any efforts made to induce householders and well-sinkers to provide wells which are properly protected from surrounding pollution. In some rural districts suggestions as to the proper construction of wells have, we believe, been drawn up and circulated but it appears to us that the Local Government Board might well draw up some regulations or recommendations on the subject which would have the effect of gradually doing away with shallow wells which simply invite pollution. Dip-wells and other wells from which water is raised through moveable lids should be properly steened and the walls should be raised above the ground level. In cases where water is raised by means of a pump the mouth of the well should be securely covered and the pump should be some distance from the well. It would be desirable, too, that the suggestions made by Professor Koch should be sometimes acted upon. He proposed that in the case of unsatisfactory shallow wells a pump should be provided and the well itself filled in up to the water level with coarse and fine gravel, there being at least two yards of fine sand above this. By these means any pollution in the neighbourhood of the well would be likely to undergo satisfactory purification before reaching the water level.

THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON.

AMONG the more permanent memorials of the centenary of the Royal Medical and Chirurgical Society of London is a "Chronicle" written at the request of the President and Council for the centenary festival held this year. The authors are Dr. Norman Moore and Mr. Stephen Paget and they have compiled a most interesting book. Like most other organisations the Royal Medical and Chirurgical Society arose out of the (temporary in this case) disorganisation of a similar and pre-existing society—a society which, we hasten to say, now shows no trace of its youthful disorders. The date of the foundation of the Royal Medical and Chirurgical Society was Wednesday, May 22nd, 1805, and the place the Freemasons' Tavern. The first home of the society was in Verulam-buildings where it remained from 1805 to 1810, then it moved to Lincoln's Inn-fields where, though in different houses, it remained until 1834. Then came the move to Berners-street where the society remained from 1835 to 1889, and finally the society took up its present quarters in Hanover-square in 1890. The book is divided into two parts, the first of which contains the history of the society and the second the names of past presidents with the careers of those who are dead. In the first part, also, are short notes on the proceedings at the meetings, *précis* of interesting papers, and other matters, amongst which last is one of special interest to ourselves—namely,

the proposal in 1854 (the date 1852 given on p. 104 is obviously a slip) to exclude THE LANCET and the *Medical Circular* from the library. Altogether the retrospect is of great interest and should be studied not only by the Fellows of the society but by other medical men as well.

THE HYGIENE OF THE LONDON STREETS AND MOTOR TRAFFIC.

PEDESTRIANS in the streets of London are already realising that a gradual and remarkable change in the method of vehicular locomotion is taking place. The change has been more marked by the advent of the motor omnibus which represents probably the weightiest motor vehicle for passengers that has been so far employed. The traffic of central London—the Strand, Holborn, Oxford-street, and the City—consists mostly of omnibuses and when these cease to run the streets appear comparatively empty. When, therefore, the horse-drawn omnibus is exchanged for a motor omnibus we may regard the motor traffic as practically established so far as the London streets are concerned. With this change of traffic there must be a change in the degree and kind of the pollution of the streets and of the air, for until the motive force for propelling traffic can be created at a distance and stored, as in the case of electricity, there must always take place some kind of pollution of the air of the streets. The old pollution, that of the excreta and emanations of horses, will give way to the new pollution—the products of perfect and imperfect combustion of the petrol of the motor. We may assume, therefore, that the pollution will increase as regards its purely chemical character and will cease as regards its biological qualities. The impurities arising from the incomplete combustion of fuel are much less likely to be pathogenic than the products of physiological combustion and in this respect the displacement of horse traffic by motor traffic is calculated to effect a sanitary improvement. The streets of London are ever full of dust and the bacteriology of this dust, derived so largely as it is from animal traffic, is appalling and decidedly sufficient to account for a number of pathological conditions in those who come into contact with it. Affections of the nose and throat are very common in the pedestrians of busy streets, though it would seem that those who are constantly exposed to the dust of traffic enjoy some immunity and become, so to speak, hardened. The man fresh from the clean country or sea air experiences an irritable condition of the nose and throat after he has been a little while in the London traffic, especially in dry weather. Similarly, on the return from his holidays the Londoner himself is often attacked in the same way. Will what we have termed the new pollution—that is, the pollution of the motor-car—remove this pathogenic factor of horse-drawn vehicles? It is probable; but only perhaps to give place to a fresh element, active in producing headache, depression, and langnor. At any rate, we know that the imperfect combustion of volatile hydrocarbons gives rise to poisonous products and the vapour of the hydrocarbon itself or of petrol when inhaled causes distressing symptoms. In this sense therefore the new pollution of the streets may be worse, hygienically speaking, than the old pollution but we may fairly hope that we have not yet seen the ideal motor and that further improvements will tend to the complete utilisation or burning up of the volatile fuel. At times the trail of motor-cars, and especially of motor omnibuses, in the streets is nauseating with smoke and petrol fumes, and if this is the case when only a fraction of the traffic is motor-propelled what will it be like when the horse has been practically banished? Many of us will wish for the horse again if the methods of combustion are not improved in the direction indicated. But perhaps a new motive agent will be found; indeed, could the obvious difficulties be overcome liquid air would be ideal for the purpose, as then not only would the motor traffic not pollute the air but it would actually provide the streets with a fresh supply.

HYPNOTISED WITNESSES.

THE medico-legal relations involved by the practice of hypnotism have several times been discussed in the courts of the United States of America. Quite recently in the case The State *v.* Exum it has been decided that the statement by a witness on cross-examination that she had been thrice hypnotised by the prisoner is admissible as affecting the credibility of her evidence. It was not alleged in this case that the witness was actually in the hypnotic state, for then she would have been held quite incompetent to offer testimony. What counsel sought to prove was that she was then and there the subject of a post-hypnotic suggestion. It is admitted that proof of such a mental condition must be very difficult; the judge, whose function it is to decide the competency of a witness, would have to consider many pertinent facts. Once, however, the state of post-hypnotic suggestion is established there can be little doubt that a witness so obscured should be ruled unable to testify on behalf of the party responsible for that condition. It must be remembered that possible actions of the victims of *suggestions à longue échéance* are still hotly debated in the French schools of hypnotism: at the Salpêtrière they hold that the educated moral sense is not annulled by a criminal suggestion; at Nancy they have several practical if reprehensible illustrations that when hypnotised the mind does not revolt at a suggestion which leads practically to the performance of a misdemeanour or a crime.

RECURRING PHLEBITIS OF OBSCURE ORIGIN.

IN the *Johns Hopkins Hospital Bulletin* for June Dr. J. B. Briggs has described a form of phlebitis affecting the veins of the extremities which occurs without apparent cause and has received little attention from systematic writers. The cases are rare and show many striking features in common, so that they form a well-defined group. They are characterised by a progressive and relapsing course. They resemble in their main features those described by Sir James Paget and others as gouty phlebitis. But in Dr. Briggs's cases no evidence whatever of gout could be elicited. The following is an example. A healthy student, aged 23 years, who gave no history of gout or rheumatism, awoke one morning in May, 1901, with a sensation of stiffness at the inner side of the left ankle. The sensation disappeared during the day but recurred next morning with increased severity. Examination on the fourth day showed that the left internal saphenous vein formed a firm and tender cord in the lower part of its course. There were in the malleolar region slight superficial redness and œdema. The symptoms subsided in about a fortnight and a tough cord three centimetres in length remained. Careful examination failed to show any infectious process and the general health was excellent. Early in July the patient awoke one morning with sharp pain in the left leg and found a thrombotic cord continuous with the first one extending about six inches above it in the course of the internal saphenous vein. There were considerable œdema of the inner part of the leg and some redness and heat. Tenderness was extreme. Prolonged immersion in a stream of cold water was performed several times a day which relieved the pain and enabled the patient to walk about. After two weeks the symptoms had disappeared and there remained only the firm cord of the occluded vein. The general health was unimpaired even

when the pain was greatest, there was never any pyrexia, and the leucocytes were below 8000 per cubic millimetre. A characteristic feature was that the pain was diminished by exercise and increased by rest. Thus on awaking in the morning it was always intense. On walking about it diminished and in the afternoon the patient could play tennis. In August there was another attack affecting the vein as high as the knee; in October one occluding the saphena vein to a point five centimetres above the knee; and in December one continuing the process nearly to Poupart's ligament. The attacks were all precisely similar; they began during the night and the thrombosis never extended beyond the point which it reached at the beginning of the attack. Œdema was never marked and appeared only on the inner part of the leg corresponding to the thrombosed vein. It is noteworthy that embolism did not occur, although the patient walked about even when the inflammation was at its height. Three years after the last attack the obliterated internal saphenous vein could be traced as a fibrous cord up to the middle of the thigh. In April, 1905, another attack occurred. Dr. Briggs describes two other cases and cites five similar ones. In two cases the arms were affected but these cases differed from the others in the fact that there were no relapses. Dr. Briggs does not agree with the view of some writers that this phlebitis is a manifestation of gout, as there was no evidence of this disease. He suggests that it may be due to a sclerotic change in the veins analogous to arterio-sclerosis.

THE UNRESTRICTED SALE OF DANGEROUS DRUGS.

AN inquiry was held recently in Guernsey into the circumstances attending the death of a lady named Bird, when the following facts were elicited, to which attention may well be drawn. Mrs. Bird had been ill for some time and had been treated by Dr. E. V. Gibson who regarded her as on the road to recovery; in fact, she was, in the words of a nurse who had left her on May 11th, nearly convalescent. She had, under the directions of Dr. Gibson, taken veronal but he had not ordered her any for some days previously to her death. It was proved, however, by her letter giving the order that she wrote to Messrs. John Barker and Co. of Kensington for veronal and received from them on a Thursday morning a packet containing an ounce of the drug. On the following Saturday a nurse who was then attending her found her trying to get into bed, when she explained her position by saying that she had fallen out of it and after this she was observed to be drowsy. On the following day her condition attracted the attention of Dr. Gibson who examined her and ordered a search which resulted in the finding of the packet containing veronal. He then did all that was possible to avert death which, however, took place on the following Tuesday. It was shown from the amount remaining that between Thursday and Saturday, probably on Saturday morning, the unfortunate lady had taken about half an ounce of veronal. Not unnaturally Dr. Gibson called attention in his evidence to the fact that so large a quantity of veronal as an ounce, invoiced at 6*s.* 6*d.*, could be transmitted without restriction of any kind to anyone sending an order by post, and the court, very properly, adjourned the inquiry in order that further particulars with regard to the purchase might be proved. This resulted in the production of the letter written by the deceased, together with evidence by His Majesty's Comptroller, who obtained it for the purpose of the inquiry, that he had also received a box of veronal of the kind sent to Mrs. Bird. The important point with regard to this, and one not less serious than the free and unrestricted sale of so large a quantity of the drug, consisted in the fact that the box was stated not to have been accompanied by any instructions or warning with regard to its contents. It is hardly necessary to point out how dangerous the sale of medicinal compounds may be without strict directions as to dosage and it must also be remembered that what may happen in such circumstances is that a medical man may order a medicine to be made up in a mild form suitable to the case of a particular patient and may direct a certain bulk of it to be taken. The patient, however, who happens to have learnt in general terms the description of what has been prescribed may purchase for himself unknowingly a much stronger preparation. If he does so the result of taking the same quantity in bulk that he swallowed before with beneficial result is likely to be serious. We should recommend druggists to exercise discretion in the sale of drugs an overdose of which is likely to lead to fatal results and to refrain from selling them except in accordance with a medical man's prescription. If they decline to do this they should indicate a dose, taking good care to fix it on the safe side; otherwise they must not be surprised to find their names mentioned at inquests and disapproval of their methods expressed. In the case of Mrs. Bird a verdict of "Death by misadventure" was returned, the jury no doubt attaching weight to the omission of directions as to dosage proved before them. Dr. Gibson did good service in calling attention to the matter.

ACETONURIA IN SURGICAL CASES.

ACETONURIA is well known as one of the phenomena of diabetic coma. It has also been observed under a number of other conditions of which the best known is the administration of an anæsthetic. Recently we called attention to a series of cases in the Boston Children's Hospital in which death occurred in peculiar circumstances and acetonuria was present.[1] In most of them an operation had been performed under anæsthesia. The condition in which acetone and diacetic acid appear in the urine has been described as acid auto-intoxication but our knowledge of it is most imperfect. The *Boston Medical and Surgical Journal* of June 29th contains an important contribution to the subject by Dr. J. C. Hubbard. He shows that, like many other conditions described as rare, acetonuria is considered so only because it has not been looked for. His attention was drawn to the subject by the series of cases referred to above and he examined the urine of a number of patients on admission to the Boston City Hospital. The urine of 110 patients was examined for acetone and diacetic acid, that of 35 for acetone alone, and that of five for diacetic acid alone. Acetone was found in nine cases, in four of which it was associated with diacetic acid. The following is an outline of the cases. 1. A girl, aged 16 years, had chronic tuberculous adenitis of the neck. The glands were dissected out and the wounds healed. 2. A boy, aged seven years, was admitted with symptoms of concussion of the brain on the day after he was thrown on his head. He was discharged on the following day. 3. A woman, aged 50 years, had an appendicular abscess which was successfully drained. 4. A man, aged 26 years, was admitted with chronic appendicitis and inguinal hernia. An interval operation for appendicitis and Bassini's operation were successfully performed. 5. A boy, aged 10 years, was admitted with symptoms of concussion after falling from a wagon on his head. There was slight mental confusion for 12 hours. 6. A girl, aged eight years, sustained fractures of the humerus and clavicle and vomited much fluid containing blood. 7. A man sustained fracture of the pelvis. 8. A woman, aged 21 years, had symptoms suggesting salpingitis. 9. A woman, aged 21 years, had fracture of both bones of

[1] THE LANCET, Sept. 17th, 1904, p. 846.

the leg. In none of these cases did the urine contain albumin or sugar. All ran an ordinary course. Thus acetonuria was found in nine out of 135 surgical cases and it must be a much more frequent condition than is generally supposed. In another series composed of five cases the urine was found to contain acetone or diacetic acid on being examined to furnish an explanation for some irregularity in the course of convalescence. The following are two examples: 1. A boy, aged four years, had a fracture of the femur which was set on April 21st, 1904. An attack of measles began on June 18th. On the 20th he was drowsy and there had been an odour of acetone from the breath for five or six days. On May 20th the urine did not contain acetone or diacetic acid; on June 19th both were present. 2. A girl, aged 11 years, had her appendix removed on May 11th. On the 23rd a secondary abscess discharged. On June 17th the urine contained no albumin, sugar, acetone, or diacetic acid. Vomiting began and on June 30th the urine contained a trace of albumin, hyaline and fine granular casts, blood, numerous polynuclear leucocytes, acetone, and diacetic acid. In these five cases the symptoms yielded readily to the administration of bicarbonate of sodium. What the course would have been had the acetonuria not been recognised cannot be said. In two other cases acetonuria was found and death ensued. 1. A boy, aged nine years, was operated on for appendicitis on May 16th, 1904. The appendix, which was injected and swollen, was removed. Vomiting occurred after the operation and on the following days. On the 18th there was a sweet odour from the breath. On the 28th the temperature was irregularly elevated, nothing was retained by the stomach, and death occurred. Acetone and diacetic acid were found in the urine on the 19th and persisted until death. A girl, aged 12 years, had acute osteomyelitis of the lower end of the right femur. An operation was performed on April 4th, 1904, and pus was found in the medullary cavity. Abscesses developed in various bones which were trephined as follows: April 6th, right femur; 10th, left femur; and 13th, left fibula. On the 25th an abscess of the right parotid was opened. After this convalescence seemed to progress until vomiting began and acetonuria was found. The vomiting persisted until death which occurred on May 20th. In none of the cases was there any glycosuria. Dr. Hubbard concludes that three forms of acetonuria may be distinguished: one without symptoms in which the prognosis is not affected; a second with moderate symptoms and of only slight importance; and a third with severe symptoms and a grave prognosis. Acetonuria occurs most frequently in the young. It is noteworthy that in the two fatal cases the ages were only nine and 12 years. The most prominent symptoms observed in the recorded cases were vomiting, apathy, and the odour of acetone in the breath. The treatment usually adopted was the administration of bicarbonate of sodium in 30-grain doses thrice daily or every four hours.

THE SOCIETY OF CHEMICAL INDUSTRY.

DURING the past week a convention was held in London which represents the twenty-third annual meeting of the Society of Chemical Industry and the first international meeting held in this country. The election of Mr. William H. Nichols, M.S., LL.D., D.Sc., a distinguished manufacturing chemist of New York, to the office of President attracted a number of American guests. Amongst many entertainments provided for the visitors was a day at the Wellcome Club and Institute at Dartford, Kent, the meeting serving also to commemorate a quarter of a century's work of the firm of Messrs. Burroughs, Wellcome, and Co. The visitors included a number of distinguished workers in chemical science and in chemical industries throughout the British Empire and America, and the medical profession was also largely represented. The main object of the society is to encourage the application of chemical science to industry and during the 23 years of its existence the progress which has been made in this direction has been very satisfactory. Its extension happily threatens to destroy root and branch the "rule of thumb" methods of antiquated manufacturers. The position which the society takes is that pure science must be the handmaiden of industry if progress is to be made and if our position as an industrial nation is to advance and not to fall back. Money must be spent in training men for the work of special research bearing upon the nature of the industry pursued and trained men of science should in future occupy something more than a mere academic position and should fill the post of adviser, investigator, and controller in the various manufactures of the country. An excellent example has been set in this direction by Messrs. Burroughs and Wellcome who have instituted in connexion with their manufactures admirably equipped chemical and physiological research laboratories. Apart altogether from the decided advantage which the possession of research laboratories gives to the preparation and manufacture of medical and pharmaceutical preparations results are gained also which are from time to time communicated to the learned societies and which are calculated to spread a more exact knowledge of the pharmacology of drugs. Professor H. E. Armstrong, F.R.S., who has pleaded so eloquently for the application of science to industry in this country, in a speech made at the meeting paid a warm tribute to Mr. H. S. Wellcome for his enterprise. It was evident also to the visitors on Saturday that the latter gentleman does not forget that success depends on a harmonious relationship subsisting between the employer and the employé. Every consideration had been extended to the employés as regards their comfort and well-being, as evidenced in the foundation of the club and institute and the spacious and pretty grounds provided for their recreation.

LONDON'S FOREIGN MEAT-SUPPLY.

THE existence of the huge organisations controlled by the Corporation of London in connexion with the importation of live cattle, sheep and oxen, for the supply of the London markets was emphasised recently by a visit of inspection to Deptford made by the Markets Committee which is responsible for the work, and at this visit one of our commissioners was privileged to be present. The dockyard and abattoirs, where the cattle are slaughtered within ten days from the date of landing, are situated in a remote, but extremely picturesque, corner of Deptford. The abattoirs were erected some few years ago upon lines embracing the best features of continental models then extant and, it is almost needless to say, are kept scrupulously clean. The large cattle-boats now running chiefly from America and Canada (the Argentine boats having ceased within the last two years) anchor off Gravesend, seldom coming as far as Deptford owing to the difficulties of navigation. The cattle are transhipped to boats kept for the purpose belonging to the corporation and so expert have the crews become in the work that 500 or 600 head of cattle are transferred from one boat to another in an hour, while the same number can be landed from the boat at Deptford in 50 minutes. The boats have two lower decks divided into compartments fitted with light- and air-shafts and, in addition, possess an electric installation. These cattle decks are lime-whited throughout after each trip. In the centre of the boat is the cattle ladder or gangway by which the beasts reach the lower deck after the reluctance of the leader to descend the ladder has been over-ruled, the others following without much hesitation. Notwithstanding the apparent difficulty attending transhipment accidents to the

men employed or to the animals are rare. There is one point, it seems to us, which admits of improvement. The cattle decks might be formed of some impervious material such as asphalt (corrugated) draining into a sump or portable tank. This would permit of these decks being flushed with a hose and would prevent the possibility of the bilge becoming contaminated. The beasts on arrival are duly examined by the veterinary officer in charge. On the occasion of the recent inspection the members of the committee of the three markets—viz., the Central, the Caledonian, and Leadenhall—attended by various officials, including the port sanitary officer, dispersed and inspected the vessel in sections, afterwards meeting in committee on one of the boats to compare notes.

MEDICAL EXCURSIONS FOR STUDENTS OF MEDICINE.

WE are enabled this week to lay before our readers some further information concerning the "Voyages Médicaux" organised by M. E. Bazot. Names should be sent to him at the Service Annexe de l'Œuvre des Voyages Médicaux, 1, Rue de l'Echelle, Paris, as soon as possible, the latest day for their reception being August 2nd, but subscriptions need not be sent in before that date. The money may be sent by money order. The committee of the Association Corporative des Étudiants en Médecine is taking all the measures necessary for the welcome of British fellow students and has organised an informal and friendly reception which will be held on the evening of the day of arrival at Paris. Besides this reception another one is offered by the administrative committee of the Voyages Médicaux. Time, however, is short and as we said last week we greatly fear that but little can be done this summer.

A CASE OF ANGINA PECTORIS WITH UNUSUAL SYMPTOMS.

WE have received a reprint of a paper published in the spring number of *Brain* by Dr. G. A. Gibson of Edinburgh on Some Hitherto Undescribed Symptoms in Angina Pectoris. The case was most carefully observed and presents some features of interest from which Dr. Gibson deduces certain noteworthy conclusions relative to the innervation of the heart. The patient was a strongly built labourer, 45 years of age, with a healthy florid complexion, and was admitted to the Royal Infirmary complaining of pain in the chest and left arm which dated from five weeks before admission and was associated with some breathlessness on exertion. There was no history of alcoholism and the patient's home conditions were healthy and comfortable but his work was heavy. The pain after a time began to show paroxysmal exacerbations, during which the face became pale and the arteries small and hard. The cardiac impulse was situated in the left nipple line four and a half inches from the mid-line of the sternum; there was some enlargement of the area of cardiac dulness. The heart sounds were clear but the aortic second sound was much accentuated. All the superficial arteries were thick and tortuous and the arterial pressure, estimated by Hill and Barnard's sphygmometer, was found to vary between 160 and 170 millimetres of mercury. The unusual features of the case consisted chiefly in the character and distribution of the sensory changes. There was constant pain over the back on the left side as far down as the ninth intercostal space and extending up to the back of the neck, over the clavicle, and down the front of the chest as far as the eighth space. It involved the whole of the shoulder and extended down the outer aspect of the arm and forearm so as to reach the thumb, index and middle fingers. Over the greater part of this area there was hyperæsthesia to all forms of stimuli except over the radial portion of the hand where there was absolute anæsthesia bounded by a small zone of analgesia without anæsthesia. The sterno-mastoid, trapezius, pectoralis, deltoid, biceps, and supinator muscles of the left arm were tender and there was great weakness of the left hand. All these muscles showed a condition of increased electrical excitability when tested by faradism and galvanism. The left eye was more prominent than the right and the left pupil was larger than its fellow. The diagnosis made was that of early arterial sclerosis, probably implicating the coronary arteries and associated with some interstitial changes in the myocardium. The changes in the muscles were attributed to afferent impulses and were regarded as analogous to those seen in arthritic muscular atrophy. The sensory changes found their explanation on Head's well-known law of referred pain. From a consideration of the symptoms Dr. Gibson regards them as confirming conclusions which he has published in his Morison lectures as to afferent impulses from the heart, that they travel by the inferior cardiac nerve to the inferior cervical ganglion of the sympathetic and thence by the grey rami to the seventh and eighth segments of the spinal cord.

RE-AFFORESTING THE APENNINES.

ONE of our correspondents in Italy writes:—"The function of forest growth in maintaining the balance between moist exhalation and beneficent rainfall was nowhere more strikingly illustrated than in Italy, whose 'waving woods' and exuberant soil were among her 'praises' commemorated by Virgil. For centuries, however, persistent tree-felling uncompensated by collateral tree-planting has robbed her of that enviable distinction, and so we find denuded hillsides annually visited by prolonged drought and torrential downpour with progressive injury of agricultural and industrial interests till, all too tardily, the legislature has had to intervene with such remedies as it can devise. Mainly under medical inspiration and initiative societies 'Pro Montibus et Silvis' have cropped up in the present generation and the 'Legge Forestale' of Baccelli marked a step to be followed by others towards the 'consummation devoutly to be wished'—the reclothing of the naked uplands and the return to the normal interchange of gentle evaporation and fertilising shower. Just before Parliament rose for the summer one of its ablest members, Dr. Antonio Celli, professor of hygiene in the Roman University, put a series of questions to the Ministers of Agriculture and Public Works tending to stimulate the 'rico-stituzione idraulica forestale dell' Apennino,' but received answers so unsatisfactory that he gave notice of a motion to be tabled at the next meeting of the legislature. It is to be hoped that Dr. Celli's interpellation will bear fruit, there being few reforms so urgent as that contemplated by his motion if Italy is to retain her chief industry—the vine and olive culture—at its normal standard and is not to lose her 'amenity' so seriously compromised in the year now passing."

CONVALESCENT HOMES ASSOCIATION.

THE constitution and rules of this new association were settled at a recent meeting of the council. The object of the association is to coördinate the work of public convalescent homes receiving London convalescent patients, whether from their own homes or from the metropolitan hospitals; to obtain and to disseminate information on the needs of London in respect of convalescent relief and on all other matters of interest or importance to the members of the association; to advise them on equipment, management, and maintenance; to watch over and to protect their rights and interests as they may be affected by legislation or otherwise; to serve as a means of communication and to assist coöperation between convalescent homes and hospitals and other

public institutions; and generally to take such action as may be desirable in any matter in which convalescent homes are interested. The council, which is to be the governing body of the association, is to consist of a certain number of representatives according to the number of beds in each convalescent home, representatives of the metropolitan hospitals, and a representative of each of the following public bodies: the Metropolitan Hospital Sunday Fund, the Hospital Saturday Fund, the Central Hospital Council, the Charity Organisation Society, and the Invalid Children's Aid Association. An executive committee will be a committee of the council and will transact the main business of the association. Each convalescent home becoming a member of the association is to contribute a small subscription, the amount depending on the number of beds possessed by the home. All institutions and individuals, not being already subscribers, applying for information or otherwise making use of the association are to pay a minimum fee of 1*s.* for each application. The President of the Royal College of Physicians of London and the President of the Royal College of Surgeons of England are to be *ex officio* vice-presidents of the association. We think that there are very evident uses for such a body as the Convalescent Homes Association and we are glad to see that it is getting into working order. The starting of such an association is an exceedingly troublesome matter, as there are many difficulties to be overcome. Some of the convalescent homes see no need for the new body and fear to do anything which may sacrifice any part of their independence. They need have no such fears, for the association should prove of the greatest assistance to the individual homes and should tend to coördinate them so as to increase greatly their influence and value. We shall look forward with interest to the work of the Convalescent Homes Association.

THE first congress of the International Society of Surgery will be held in Brussels in September under the patronage of His Majesty the King of the Belgians. The congress will be in session from Monday, Sept. 18th, to the following Saturday inclusive, under the presidency of Dr. Theodor Kocher, professor of surgery in the University of Bern. All further information can be obtained from Mr. Reginald Harrison, F.R.C.S., the British delegate, 6, Lower Berkeley-street, London, W.

THE French Académie de Médecine has awarded, through the Minister of the Interior, a silver medal to Dr. Alan B Green, bacteriologist in charge of the vaccine lymph department of the Lister Institute of Preventive Medicine, for his work on "Vaccine," published in the Proceedings of the Royal Society and in the Report of the Medical Officer to the Local Government Board.

THE first International Congress of Physical Therapy will be held at Liége from August 12th to 15th, under the patronage of the Belgian Government and a number of eminent medical men and men of science of all nations. Communications should be addressed to the secretary of the English committee, Mr. W. Deane Butcher, M.R.C.S., Holyrood, Ealing, W.

Professor D. I. Mendeléeff, the distinguished professor of chemistry at the University of St. Petersburg, completed the fiftieth year of his public professional services on June 13th and a celebration of his half a century in Government service will take place on August 30th.

UNIVERSITY OF OXFORD.—An examination for the Radcliffe Travelling Fellowship of the annual value of £200, tenable for three years, will be held in Hilary term, 1906.

Looking Back.

FROM

THE LANCET, *SATURDAY*, July 21, 1827.

THE RESPECTABILITY OF THE COLLEGE OF SURGEONS, AND ITS USEFULNESS IN THE SUPPRESSION OF QUACKERY.

IT has often been observed, that visitors can readily detect abuses, when those who are living within the sphere of their operations are blind to their turpitude. It would appear, from the indifference manifested by some, that the march of improvement in the legislation of corporate bodies, had been so rapid as to leave little to reform; and that our College of Surgeons had really accomplished all that it was designed to do; that it had become the sole protector of "sound chirurgical knowledge;" and that it discountenanced and suppressed everything which had a "contrary tendency."

On looking over a work recently written by a German physician, (Dr. Casper,) describing the state of medicine in England and France, we felt, as we have no doubt others will feel, ashamed of the testimony he has given to his countrymen; but at the same time, being convicted of its truth, we were ashamed that we belonged to a body permitting such dissolute and unrestrained quackery. Having spoken of the excessive disproportion of practitioners to the requirements of the population, he says,

"I was shown an address-book of about the thickness of my two fingers, containing the names of those only who were inscribed as Members of the 'Royal College of Surgeons!' It was by no means rare to find on the house-doors, the names of two or more surgeons, with the appendix of a Co., as 'Philips, Sumpton, and Company, surgeons, &c.' My readers will probably not be less surprised than myself at these ostentatious displays, and will be disposed to inquire, as I did, what they could mean; whether the gentlemen treated their patients conjointly; whether it was so contrived that one of the Co. should always be at home, in case of accidents, and so forth? At length the riddle was solved. The whole concern was only a branch of the London quackery. Among the common sort of English, in whom a commercial spirit is not less innate than that of 'Freedom,' the word 'Company' is considered a good assurance for the solidity of a firm; and, by analogy of reasoning, two or more surgeons are supposed to possess more skill when practising in 'Company,' than if alone.

"In London, as in Paris, the punctum saliens of medical quackery is *syphilis*, and here again we find 'Consultation Houses,' and the usual nostrums. But it would offend the vision of the modest and bashful Englishman if such things should be announced on hand-bills at the corners of streets; the quacks in London have therefore invented a different plan to disseminate their boasted skill among the multitude: they employ men to distribute little advertisements to the foot passengers, who at their leisure may read the disgusting contents. Some of them have some enticing motto prefixed, as 'Speedy cure on moderate terms!' others are said to be 'For the benefit of the army, navy, and the public in general!!' I was informed that there were certain 'Medical establishments where men are rescued from perilous diseases without the use of mercury, which has proved the death of thousands, in the hands of *ignorant quacks!*'

"Just in the same style hundreds of similar forms of deceiving the public practised in the capital of a country, which may be proud to call a Hunter, an Abernethy, a Lawrence, a Bell, and a Cooper her sons. According to the pretentions of the advertisers, what wonders are not 'Leake's justly famous pill' capable of accomplishing? Prepared and sold, as the dirty paper announces, by the Taylors, in a street leading to Blackfriars-bridge, who say they are *Members* of the *Royal College of Surgeons!*" Dr. Casper then goes on to sneer at the contents of the papers, detailing the marvellous efficacy of these pills of "immortal and universal fame," and concludes his remarks by congratulating his countrymen on their being free from such disgrace. "Luckily," says he, "Germany can look down upon and laugh at these disgraceful fooleries of her *enlightened* neighbours!!"

THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH, 1505–1905.

THE Royal College of Surgeons of Edinburgh, which has during the present week been commemorating with suitable ceremonial and social entertainment the 400th anniversary of its incorporation, is the oldest surgical or medical corporation in the United Kingdom. The Royal College of Physicians of London, the next in order of age, dates its official birth 13 years later, in 1518. All the other colleges date from a century to three centuries later. There is thus a very special interest attached to the celebration of the fourth centenary of this College, and the readers of THE LANCET will be interested in a sketch, brief though it may be, of its history during the eventful 400 years of its existence.

The precise date of the birth of the College as a corporate body is July 1st, 1505, a date which places it eight years before the battle of Flodden, at a time when Edinburgh was a walled city and when Scotland had not passed through the turmoil of the Reformation.

The charter was granted by the town council of Edinburgh as the result of the presentation of a "Bill of Supplication" to that body by "the kirkmaister and brethren" of the "Surregeanis and Barbouris" within the Burgh of Edinburgh. The charter, or "Seill of Cause," appears to have been granted readily. The main supplication of the surgeons and barbers was that they should be incorporated as one of the burgh crafts, so that they must have formed by that date a considerable body, associated in some way and acting together with some measure of *esprit de corps*. They, however, not only sought incorporation as a craft but in their petition applied for power to admit others into their craft after examination. The inclusion in their petition of the request for an examination to be held by the masters of the craft has been much dwelt upon by some of the historians of the College not only as a praiseworthy arrangement but as a novel and unique condition at the time. The examination, however, was only a means of securing that the monopoly of practising the craft within the burgh should be in the hands of competent men. This is brought out in the words of the petition "thatt na maner of persoun occupie nor use any poyntis of oure saidis craftis of surregerie or barbour craft within this burgh bott gif he be first frieman and burges of the samyn and thatt he be worthy and expert in all the poyntis belongand the saidis craftis deligentlie and avysitlie examinit and admittit be the maisteris of the said craft." That the examination was intended to be a test of such knowledge as the candidate could acquire from the masters of the craft in Edinburgh is evident from the wording of the petition, for it is there specified that "he knaw anatomea nature and complexioun of every member in manis-bodie and in lykewayes he knaw all the vaynis of the same thatt he may mak flewbothomea in dew tyme and als thatt he knaw in quhilk member the signe hes domination for the tyme for every man aucht to knaw the nature and substance of every thing thatt he wirkis or ellis he is negligent." It is thus quite evident that what we now call "professional knowledge" was required of the candidates and that this is to be regarded as the earliest beginning of the system of examination still guarding the portals to the practice of surgery. That those early masters of the craft valued in some degree a knowledge of anatomy is shown by the further request in their petition "that we may have anis in the yeir ane condampnit man efter he be deid to mak anatomea of quhairthrow we may haif experience, ilk one to instruct uthers." And there is added the promise, "And we sall do suffrage for the soule."

While this examination was necessary before admission to the craft it was preceded by a period of apprenticeship to one of the masters extending over a period of five years. Even at the early date of which we write there was what may be taken as the equivalent of the present preliminary examination, for no master was allowed to take an apprentice unless the proposed apprentice could "baith wryte and reid." The charter thus granted by the civic authorities was confirmed in the following year by Royal authority.

For three-quarters of a century there appear to be no records of the doings of the newly incorporated craft, but by the year 1589, according to Dr. John Gairdner's investigations, a practice had sprung up of separating in some measure the barbers from the surgeons. By that date it appears that "single" barbers were admitted to the corporation, but not to its full freedom, and were forbidden to practise any "point of chirurgie under pain of tinsell of their fredome."

SIR PATRICK HERON WATSON,
PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

In the time of the Protectorate there existed outside the surgeons and barbers craft a body both of unincorporated physicians and unincorporated apothecaries who threatened to invade the domain which the incorporated craft claimed as their own. There seems to have been great alarm aroused by the aggressive action of those two bodies but the alarm was allayed by the apothecaries abandoning their allies the physicians and coming to terms with the surgeons. The outcome of this was that a "brotherhood of apothecaries and chirurgeon-apothecaries" was constituted. The town council Act establishing the brotherhood bears date Feb. 25th, 1657, and was confirmed by Parliament on August 22nd, 1670. Another Act in 1695 constituted the surgeons "chirurgions and chirurgion apothecaries."

This Act of 1695 was the Parliamentary ratification of a Royal grant received from William and Mary the previous year. It made very important concessions, for whereas by the first charter the privileges of the surgeons and barbers were confined within the city walls this Act empowered the combined surgeons and apothecaries to examine all who practised anatomy, surgery, and pharmacy within the greatly extended bounds of the three Lothians and the counties of Peebles, Selkirk, Roxburgh, Berwick, and Fife.

The year 1694 is a memorable one because of other important developments, for at this date it is clear that the idea of a medical school had definitely appeared. An active member of the incorporation, by name Alexander Monteith, applied individually to the town council for a grant of dead bodies for the purpose of dissection. This petition was granted and also a room in which to make the dissections. The regular apprentices of the surgeons were to be admitted to the dissections at half fee. Following immediately upon the granting of this personal application the incorporation made a like request and was equally successful in having it

granted. An important condition was attached to the grant to the surgeons—namely, "that the petitioners shall, before the terme of Michaillmes 1697 years, build, repaire, and have in readiness ane anatomicall theatre, where they shall once a year (a subject offering) have ane public anatomicall dissection, as much as can be showen upon one body."

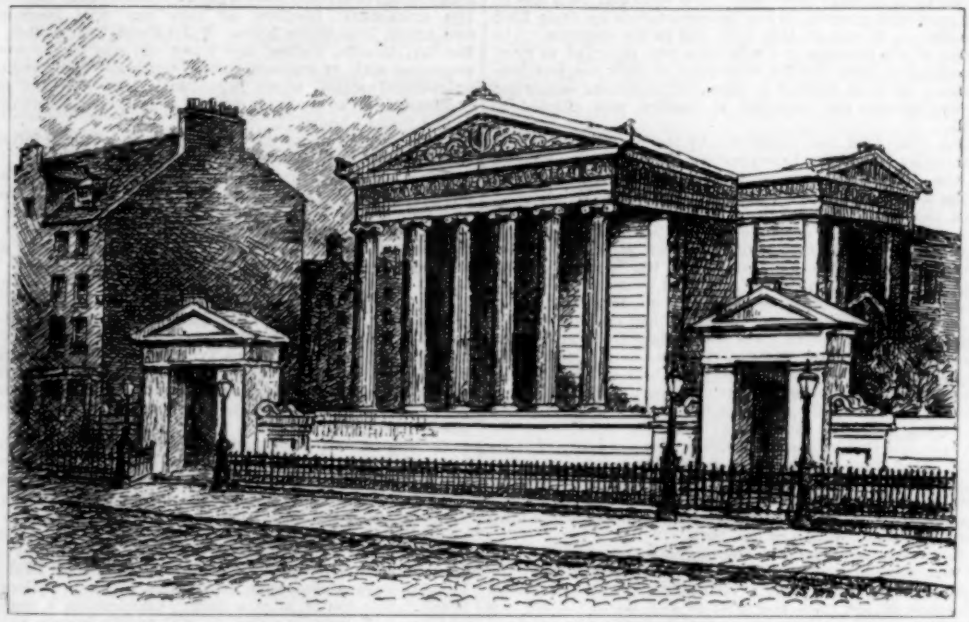
Monteith in the action which he took was prompted by, or at all events associated with, Dr. Archibald Pitcairn who held the nominal office of professor of practice of physic in the University and had recently returned from Leyden imbued with the idea of seeing a school established in Edinburgh. The action of these two men must be regarded as having been the means of initiating a definite school of anatomy in Edinburgh. In December, 1697, the surgeons' anatomical theatre was reported to the town council as completed and the council confirmed its grant of 1694 already mentioned. The surgeons further appointed a committee to arrange "the methods of the public dissections and the operators." The "operators" were those selected to give the formal course of anatomical instruction and an interesting minute indicates a course extending over ten days, each day being taken by a different "operator."

A new order of things was begun in the year 1705, 209 years after the date of the first charter, by the introduction of a system which doubtless indicated that anatomical and surgical knowledge was advancing too rapidly to be dealt with in the primitive fashion described. In this year the surgeons intrusted the entire duty of teaching to *one* of their members, while the town council conferred upon the same surgeon the appointment of professor of anatomy in the University together with a salary of £15 per annum. For the next 15 years this dual appointment was held by

FIG. 1.

Old Surgeons' Hall from the north, 1697 (from a drawing by Paul Sandby). The figures are from Kay's portraits.

FIG. 2.



Royal College of Surgeons of Edinburgh, 1905 (from a pen-and-ink drawing by J. Smith, M.D.). Reproduced with the kind permission of the artist.

Robert Elliot, Adam Drummond, and John McGill. In 1720 Drummond and McGill, who had been joint teachers, resigned in favour of Alexander Monro. Up to this time, owing to the close and friendly relations subsisting between the town council and the Incorporation of Surgeons and to the fact that the town council appointed the professors in the University, the arrangement indicated above was evidently carried on to the satisfaction of all concerned.

Following the appointment of Alexander Monro medical education rapidly advanced. Although Monro was only 22 years of age when appointed lecturer on anatomy, he had been under the guidance of his father carefully prepared by study, both in Britain and on the continent, for the post he was called to occupy. He gathered round him at the surgeons' theatre four members of the College of Physicians (established by Royal Charter in the year 1681) who taught the theory and practice of medicine and chemistry. Five years after Monro's appointment he, for reasons which need not be dwelt upon, applied to the town council to be provided with room in the University in order to teach there. This request was granted and soon afterwards his four colleagues at the surgeons' theatre applied to be made professors in the University, a request which was also granted. This was practically the beginning of the medical school of the University.

In the meantime other changes were steadily taking place in the older incorporation. After the union of the surgeons and apothecaries the surgeons drifted apart from their brother craftsmen the barbers, although they retained their former rights as barbers and surgeons. The barbers, as has been already stated, had been for some time admitted to the craft without enjoying the full privileges of barber-surgeons; in fact, on their admission they bound themselves not to practise surgery. It was not, however, until 1722 that a definite and formal separation was effected on terms mutually arranged and thereafter accepted and approved by the Court of Session. One of the curious terms in this dissolution of co-partnery was the transference to the barbers of the right to make *aqua vitæ*. This right had been one of the privileges granted to the barber-surgeons by their 1505 Charter, so it was at this time lost to the surgeons. The giving of the privilege to the barbers was regarded as compensation to them for the severance of their surgical connexion. It is of interest to note that a similar separation of the barbers and surgeons in London was effected in 1745.

The year 1778 was signalised by the granting of a new charter by which the Incorporation of Surgeons was raised to the dignity of a Royal College with the designation, "The Royal College of Surgeons of the City of Edinburgh." This charter gave the College a national position, while it did not dissolve its connexion with the civic authorities. The origin of this connexion has been indicated in the foregoing account of the origin of the barber-surgeons' craft. The civic authorities, who had granted the charter of incorporation, continued to have an important voice in the affairs of the College and even had control over the choice of the president. For many years there appears to have been little, if any, friction between the civic authorities and the College or the University, in both of which bodies they held the patronage. In the early part of the nineteenth century, however, the town council exercised its right by excluding from the presidential chair the nominee of the College and this because his politics were not acceptable. In 1833 after much striving, this connexion between the civic authorities and the College was finally severed. The town council could no longer dictate to the College and the College president was no longer required to be a member of the town council, which hitherto he had been.

Even after this separation the surgeons continued to be one of the city incorporations. Indeed, it was not until the comparatively recent date of 1851 that by Act and charter all trace of the civic character of the Royal College was swept away and its position as a national college was secured beyond dispute.

It is of interest to inquire how the College has been housed from the time of its incorporation down to the present time. In the earliest days the meetings of the craftsmen were held in the house of the "deacon," as their chairman or president was then designated. In a very short time, however, they are found renting premises to serve as a special meeting place and paying £40 a year as rent. In 1669 they built for themselves a "convening house," which was altered, added to, and, in part at least, rebuilt in 1697. The Surgeons' Hall of that date is represented in the accompanying illustration (Fig. 1). This building was erected within the south-east angle of the city wall on ground originally belonging to the Dominican Friars and overlooking what is still called "The Pleasance." Other buildings were in process of time added, the whole forming three sides of a square and for many years known as Surgeons'-square. The old "Surgeons' Hall" is properly regarded as the birthplace and the nursery of the Edinburgh Medical School. This venerable building with its curious historical associations was superseded in 1832 by the handsome building represented in another illustration (Fig. 2). The Surgeons' Hall of to-day was designed by W. H. Playfair. It contains a large and valuable museum, the gathering of generations of anatomists and surgeons, including the collections of Bell, Wilson, and Barclay. On the ground floor is the large hall in which the meetings of the College are held, also library, writing, and committee rooms. Some of these rooms are fitted with the oak panelling taken from the older hall, while the valuable portraits belonging to the College adorn their walls. The lecture rooms attached to the College are not seen in the accompanying illustration as they are situated behind the main building.

The relations of the surgeons to medical teaching in Edinburgh are deserving of some special notice. It has already been recounted how the Incorporation of Surgeons came to be the parent of the Medical School in the University by the transference of the lecturers from the one to the other. For some time the University professors continued to deliver their lectures in the theatre attached to Surgeons' Hall, but in the time of the first Monro they removed from there. In 1788 the College of Surgeons feued a piece of their ground adjoining their Hall to John Bell for the purpose of building thereon an anatomical school for himself, granting him permission to use their theatre until his own was built. John Bell was a pupil of the second Monro and was the first to start lecturing on anatomy as a rival to the recognised teacher of that subject. For years the building then erected continued to be a centre of anatomical teaching. The extra-mural teachers, as they are now frequently designated, include the names of John and Charles Bell, of Barclay, Gordon, Cullen, and Knox. It was in the rooms connected with, or gathered round, Surgeons' Hall that the extra-mural school which began with John Bell, and still continues to do so much for medical education in Edinburgh, at first found a home.

Before leaving those old times altogether it will interest some of the readers of this historical sketch to know the position which the surgeons took up in such an important national movement as the Protestant Reformation. An oath was required on entrance to the College binding them to "continue in the profession of Christ's blessed evangell as the same is publicly preached within this realm," and Dr. Gairdner thinks that "these words were clearly intended to exclude Roman Catholics." However that may be, the surgeons of Edinburgh signed the Covenant on August 25th, 1638, and "ordained their haill prenteisses and servands to subscryve the same als weill as themselfis, and that there sall be in no tyme cumming any freeman admittit, either chirurgeon or barbour, nor any bulke prenteisses or servands, but sic as shall subscryve the Covenant." Needless to say, these tests have for long been things of the past.

Turning our attention now to more modern times, it is to be noted that the Royal Charter of 1851 not only finally freed the surgeons from their civic thraldom and gave to their corporation the name and title of "The Royal College of Surgeons of Edinburgh" but defined the mode both of admission to its Fellowship and of granting its Licence and gave disciplinary powers over both its Fellows and Licentiates. As a result of the Medical Act of 1858 the Royal College of Surgeons united with its sister college in Edinburgh to confer, after a united examination, a medical and surgical diploma which is still widely known as the Edinburgh double qualification. This conjoint examination was inaugurated at the Royal College of Surgeons in 1859 when the late Sir Douglas Maclagan occupied the presidential chair. In 1884 a further change in the same direction took place. This was the inclusion of the Faculty of Physicians and Surgeons of Glasgow in the foregoing arrangement and the institution of a common examination, the successful passing of which conferred upon the candidate the licences of the three corporations. This is known as the Scottish triple qualification.

After the passing of the Dentists Act of 1878 the College established a Dental Examining Board and a diploma in dental surgery conveying the designation of "Licentiate in Dental Surgery" (L.D.S.) to successful candidates. 11 years later, in 1889, the College, in conjunction with the Royal College of Physicians of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow, instituted a qualification in public health making successful candidates "Diplomates in Public Health" (D.P.H.).

A few words regarding the Fellowship will complete the account of the College as a diploma-granting body. For many years the Fellowship of the College was conferred only on prominent licentiates, or on men who had attained local success or some degree of distinction in the practice of medicine or surgery. It was conferred by the vote of the Fellows. There was no intermediate stage between the Licence and the Fellowship. After discussion, spread over a number of years, the College determined in 1883 to open its Fellowship to examination and this was first acted upon in the following year. The College reserved, however, the power to dispense with the examination in notable and exceptional cases.

The list of distinguished men who have lectured at Surgeons' Hall is a long one and includes the name of Lister. The professoriate of the medical school in the University has been largely supplied by men who have lectured in the extra-mural school of which, as has been said, Surgeons' Hall was the centre. The freedom granted by the University to its students to attend a proportion of their classes under extra-mural lecturers has acted as a great stimulus to teaching in that school, which has reacted beneficially upon the University. The long list of "Deacons" and Presidents contains many names still held in reverence by Edinburgh men and not a few names of men who have left their impress deeply in the annals of progressive medicine.

Such is briefly the history of the College which has this week been celebrating its fourth centenary under the presidency of Sir Patrick Heron Watson, one of the most courtly men in the profession in Scotland and one of the last of the leading surgeons of the Edinburgh School who have practised both as surgeons and as physicians.

In the preparation of this sketch we desire to acknowledge our obligations to the historical researches of Dr. Gairdner, who was President of the College when its present Hall was opened; to Sir John Struthers's account of the Anatomical School of Edinburgh; and, lastly, to the interesting memento of the fourth centenary of the College written by Dr. John Smith, one of the past presidents of the College, and just published. Dr. Smith placed other literary material at our disposal and kindly granted permission to reproduce the view of Surgeons' Hall as it at present appears, which is from his facile pen.

Much might be written on the social qualities of successive generations of Fellows, of their song-writing and their song-singing, their wit and their humour, but those things are of local interest only, though by lightening the daily burden of professional life they have not been without influence on the progress of medical science in Edinburgh.

THE PREVENTION OF EPIDEMIC SMALL-POX.

A CONFERENCE on the Prevention of Epidemic Small-pox, which was attended by a great number of provincial mayors and representatives of municipal and rural authorities from all parts of the United Kingdom, was held at the Mansion House, London, on July 18th, the Lord Mayor being in the chair.

Mrs. ELIZABETH GARRETT ANDERSON, M.D., the honorary secretary of the Imperial Vaccination League, introduced the subject of the conference to those present in a few words. She stated in detail how extensively a memorial to the Government urgently pleading for obligatory revaccination had been signed by a great number of chief magistrates of towns in England, Scotland, and Ireland, and by chairmen of urban and district councils of places that had suffered from epidemic small-pox in the one and a half years ending July 1st, 1905.

Briefly stated, the reasons put forward in support of systematic revaccination at school age are that by the age of 12 years the protection against small-pox afforded by primary vaccination is in large measure worn out and children of that age when exposed to the contagion of small-pox are liable to take the disease, though for many years longer they would probably only have it lightly. The task of providing an adequate amount of glycerinised lymph would be much simplified by the demand for such lymph being nearly the same year by year. At present there is an enormous demand in epidemic years and a comparatively small demand at other times. Lymph is not prepared quickly or cheaply, and it does not keep for indefinite periods of time. If the Government knew approximately the number of tubes that would be wanted each year the problem of providing what is required would be much simpler than it is at present. Protection from small-pox by systematic revaccination would be cheaper and very much more successful than by providing costly small-pox hospitals and attempting to deal with epidemic small-pox by the isolation of patients. There would not be any great practical difficulty in organising general revaccination. In the schools under the London County Council the number of children of the average age of 12·8 years forms 6·25 per cent. of the whole number of children in the schools. This percentage amounts to about 34,000 children who would have to be revaccinated in London each year in 521 separate schools. With whole-time officials the work could be done gradually and without any difficulty. Systematic revaccination has been the rule in Germany for many years, with the result that epidemic small-pox is not known there. It has now been adopted also in France. No other means of prevention can be relied upon. The cost of providing isolation hospitals for small-pox patients is enormous and it tends always to increase, owing to the difficulty of getting sites and of working the hospitals at a considerable distance from all other houses. The great economic advantage of preventing the occurrence of epidemic small-pox by the general revaccination of children at school age was therefore urgently pressed upon the attention of the Government.

The conference emphatically endorsed the view expressed in the memorial that epidemic small-pox during the past 12 months had caused much suffering, destruction of property, increase of municipal expenditure, and interference with trade, and discussed from many points of view the great importance attached to the prevention of epidemic small-pox by the systematic revaccination at school age of all but the children relieved under the exemption clause and of those who for a time are excused on the ground of ill-health.

The LORD MAYOR of YORK moved a proposition declaring that the continued recurrence of epidemic small-pox involved much needless suffering, waste of public money, and increase of municipal expenditure, and Sir WILLIAM BROADBENT, in seconding this, observed that if there were vaccination and revaccination as proposed small-pox would become unknown.

The LORD PROVOST of GLASGOW gave statistical reasons in support of the proposition and Dr. J. G. GLOVER added to the information supplied to the conference by giving details concerning the outbreak of small-pox at Leicester.

After the proposition had been carried unanimously Sir WILLIAM S. CHURCH found no difficulty in showing that epidemic small-pox ought to be prevented in this country as it has been since 1875 in Germany by the systematic revaccination of children in their thirteenth year and his motion to that effect was seconded by Alderman J. KILBURN of Dewsbury and agreed to by the meeting unanimously.

The DUKE of NORTHUMBERLAND, who was announced on the agenda paper as the proposer of a vote of thanks to the Lord Mayor for presiding at the meeting, was the next speaker, but instead of moving the vote of thanks he submitted the following motion which was carried unanimously:—

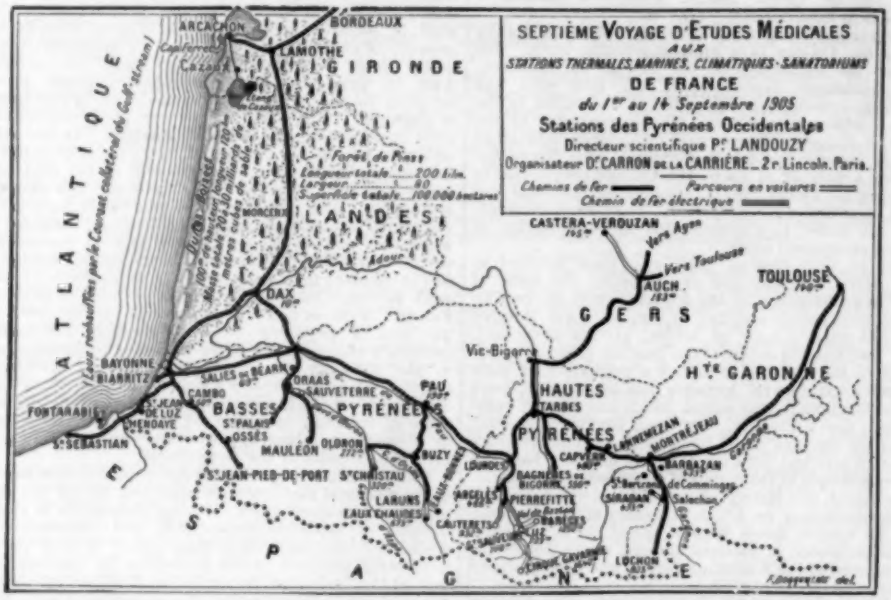
> That this meeting of Lord Mayors and Mayors, Lord Provosts and Provosts, and chairmen of the urban or rural district councils of such towns and localities in Great Britain and Ireland as have suffered collectively from upward of 480 separate epidemics of small-pox within the last 18 months, ventures to urge upon his Majesty's Government the great importance of preventing the recurrence of such epidemics by the systematic revaccination at school age of all but the children relieved under the exemption clause and of those who are for a time excused on the ground of ill-health.

This motion received hearty support from the MAYOR of PRESTON and the MAYOR of BIRKENHEAD whose efforts were seconded by Mr. R. BRUDENELL CARTER who considered that the amount of security afforded by what were called sanitary precautions taken at Leicester was very inadequate for the requirements of the public. The motion was also supported by Dr. H. E. ARMSTRONG of Newcastle-upon-Tyne.

This influential and important meeting terminated with a cordial vote of thanks to the Lord Mayor for presiding, which was proposed by Dr. E. J. EDWARDES, seconded by Mrs. GARRETT ANDERSON, and carried with acclamation.

VOYAGES D'ÉTUDES MÉDICALES.

THIS sketch map of the Western Pyrenees district illustrates the annual "voyage" arranged for Sept. 1st to 14th next and described in THE LANCET of June 24th, p. 1739. Anyone desiring full details of this journey should write to Dr. Leonard Williams, 8, York-street, Portman-square, London, W.



ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on July 13th, Mr. JOHN TWEEDY, the President, being in the chair.

The PRESIDENT reported that at a meeting of the Fellows held on July 6th Mr. Edmund Owen and Mr. R. J. Godlee were re-elected, and Mr. C. H. Golding-Bird and Mr. Harrison Cripps were elected members of the Council, as already reported in THE LANCET.

The PRESIDENT further stated that Mr. Cripps being fourth on the poll would become substitute member of Council for Sir Alfred Cooper.

Mr. Owen, Mr. Godlee, Mr. Golding Bird, and Mr. Cripps were introduced, made declarations in the terms of the oath prescribed by the Charter of 1800, and took their seats as members of the Council.

It was resolved that the museum should be closed during August and September to allow of the cleaning and repainting of several of the rooms.

On the recommendation of the Library Committee it was resolved that £100 should be allowed for the repair of bindings of books in the library.

In accordance with the recommendations of the Committee of Management it was resolved that, subject to the condition that a visitor appointed by the Royal College of Physicians of London and the Royal College of Surgeons of England should periodically inspect the examinations, candidates who have received the diploma in medicine and surgery of the Egyptian Government, after passing the required examinations and completing the curriculum of professional study at Cairo extending over four years, shall be admitted to the final examinations of the London Conjoint Board on the completion of one year of additional study at a recognised medical school and hospital in the United Kingdom, during which they shall complete the courses required by the regulations of the Conjoint Board.

The following professors and lecturers were appointed:—Hunterian professors (three lectures each): Mr. J. Warrington Haward, Mr. Arthur Henry Cheatle, Mr. Herbert J. Paterson, and Mr. Charles Gabriel Seligmann. Arris and Gale lecturers: Mr. J. H. Watson (two lectures) and Dr. S. W. Curl (one lecture). Erasmus Wilson lecturer (three lectures): Mr. James Sherren.

It was resolved to direct the removal from the roll of a Member who had previously been removed from the Medical Register.

The PRESIDENT reported the holding of the Fellows' dinner on July 6th and stated that Mr. Thomas Bryant, on behalf of the surviving members of the permanent committee of the Fellows' dinner, formerly held outside the College premises, had presented a loving cup to the College, together with the minute book of the committee giving particulars of the dinners held between 1846 and 1897. A vote of thanks to the permanent committee for these gifts was carried.

The PRESIDENT reported that the College had purchased from Mrs. Trimmer a silver tankard and two goblets, formerly owned by Sir Erasmus Wilson and presented by his executors to the late Mr. Edward Trimmer.

The PRESIDENT reported that as the representative of the College on the court of the University of Sheffield he had attended the opening of the University by His Majesty the King on July 12th and that in his absence the members of the Atlantic Union and other guests of the College had been received by the Vice-Presidents on the occasion of their visit to the museum.

The SECRETARY suggested that the names of the following Fellows, about whom nothing had been known for many years and who were probably dead, should be omitted from future editions of the College Calendar: Theophilus Miller Gunn, Member 1842, Fellow 1858; William Major, Member 1833, Fellow 1853; Frederick John Robinson, Member 1842, Fellow 1859; Thomas Seagram, Member 1833, Fellow 1856; Joseph Webb, Member 1839, Fellow 1856; and Frederick Whitfield, Member 1825, Fellow 1859.

The PRESIDENT reported that questions had recently been

raised as to the eligibility of a dental surgeon for call to the Bar but that in the case in question the dental surgeon, who was a Licentiate of the College, was duly called to the Bar on July 5th by the benchers of the Middle Temple.

The Council then proceeded to the election of officers for the ensuing year and (as announced in our columns last week) Mr. Tweedy was re-elected President and Mr. H. T. Butlin and Mr. Owen were elected Vice-Presidents.

A letter was read from Sir Henry G. Howse resigning his membership of the Committee of Management and Mr. Godlee was appointed in his stead.

A letter was read from Dr. S. H. Habershon stating that by the rules of the Convalescent Homes Association it was proposed that the President of the College should *ex officio* be a vice-president of the association and inquiring whether the College would assent to this proposal. It was resolved to approve of this.

It was resolved to send an address of congratulation to the Royal College of Surgeons of Edinburgh on the occasion of its fourth centenary celebration.

It was decided that the next meeting of the Council should be on July 27th.

THE ASSOCIATION OF BRITISH POSTAL MEDICAL OFFICERS: ANNUAL DINNER.

THE annual dinner of this association took place at the Whitehall Rooms, Hôtel Métropole, London, on July 13th. Dr. J. Walton Browne, ex-President, in the unavoidable absence, through an accident, of the President, occupied the chair. After the toast of "The King" had been duly honoured that of "The Imperial Forces" was proposed by Mr. Joseph Walton, M.P., in a vigorous and, as it was afterwards alluded to by Mr. Wason, semi-political speech. Referring to the recent sad accidents to submarines, he thought that their use should be prohibited by international consent as barbarisms. The toast was replied to by Captain Hamilton, R.N., chief officer of the London Fire Brigade, who thought that so long as submarines were used England must have the very best, and by Surgeon-General A. H. Keogh, C.B., Director General of the Army Medical Department, who said, in view of a recent statement given in evidence by a highly competent medical witness that 40 per cent. of the Volunteers were unfit for war, it was necessary to ascertain undoubtedly whether that statement was true. For his own part he did not know but it would certainly be necessary to find out all the facts, for a war taking place in this country would be very different from those with which we had had hitherto to deal. The purpose of the Army Medical Service was to maintain the fighting efficiency of the army and an inefficient Medical Service meant disaster. Efficiency was the thing to be looked for and must be attained at any cost. He referred to the Commission appointed to inquire into and to report upon the care and treatment of the sick and wounded during the South African War and its recommendations and said that every one of those recommendations was being carried out. He gave high praise to the Treasury, remarking that the proposals had received from the Treasury every possible support. He was glad to think that the Army Medical Service was progressing satisfactorily but he would remind the country and he would remind the medical profession that in times of peace no interest was taken in the medical department and he trusted in future that that would be remedied. Colonel S. Raffles Thompson, late assistant secretary to the General Post Office, also replied and strongly supported Mr. Arnold-Forster's recently issued circular with regard to the Volunteers, remarking that it was simply common sense. "The Houses of Parliament" was proposed by Mr. Stanley Leathes, secretary of the Civil Service Commission, and replied to by Mr. J. Henniker-Heaton, M.P. The toast of "The Postmaster-General, the Secretary, and other Executive Officers of the Post Office" was proposed by Dr. R. Paramore and responded to by Mr. C. H. Bundy, assistant secretary to the Post Office, who remarked that in 1854 there were no postal medical officers whatever. In 1855 one was appointed. In 1859 the capitation system came into existence and medical officers were appointed in London. In 1870 this was extended to the provinces. Last year—viz., 1904—however, there were 1830 postal medical officers and 800 more were about to be added, probably in the course of the present year. "The Association of British Postal Medical Officers" was proposed by Mr. Eugene Wason, M.P., who referred to the medical officers as the Intelligence Department of the Post Office and rendered a high tribute to their work and value. The Chairman, in reply, paid a well-deserved compliment to Dr. R Ritchie Giddings, the honorary secretary, and alluded to the social advantages of the Association. "Our Guests" was proposed by Dr. E. L. Adeney and replied to by Sir Robert Hunter, solicitor to the Post Office. During the dinner a programme of music was performed by the Imperial Quintet and the intervals between the speeches were enlivened by songs by Miss Esther Franklin, Miss Clara Walker, and Mr. George Burdge.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the Sanitary Circumstances and Administration of the Urban District of Nantyglo and Blaina and on Prevalence of Infectious Disease in the District, by Dr. W. W. E. FLETCHER.[1]—This report relates to a Monmouthshire colliery district, with a population of about 13,500, in which a variety of difficulties appear to have arisen in connexion with sanitary administration. Notification of infectious diseases did not come into operation here until 1900. During the five years 1900-04 the notified cases of scarlet fever, diphtheria, and enteric fever have been exceptionally numerous—respectively 558, 1174, and 207. Dr. Fletcher gives the figures for notifications and deaths from each of these diseases during various periods in considerable detail and he has also classified them by age groups. These data show that the district must be included among those with a persistently high attack rate from enteric fever and corresponding mortality from this disease. They show also that the scarlet fever prevalence, though noteworthy in certain years, has not been excessive when the whole period is taken. But with regard to diphtheria the conclusions are much more doubtful. Dr. Fletcher raises the question whether this disease has not been notified in a somewhat loose manner by certain of the medical practitioners in the neighbourhood. Five out of 32 practitioners were responsible for the notification of 949 of the 1174 cases of diphtheria; one practitioner alone notified 429. Dr. Fletcher is of opinion that a strong probability that many of these were not diphtheria is afforded by the low case mortality. Antitoxin seems to have been employed freely but the Metropolitan Asylums Board, with all its resources, added to the use of antitoxin, has only succeeded in reducing the case mortality of the county of London to 10·8 per cent. in 1901 and 1902 and to 9·6 per cent. in 1903, whereas, on the notification figures, Nantyglo and Blaina during a period of four and three-quarter years showed a case mortality of only 4 per cent. It should be noticed also that swabbings from the throat were examined bacteriologically in only one instance. Dr. Fletcher is of opinion that although it may be proper to regard every case of throat illness during the prevalence of diphtheria as a potential source of diphtheria, capable of conveying infection, and consequently requiring isolation and careful watching, yet it would be difficult to justify the notification of every such case, and adds that he feels sure that local medical practitioners will agree on studying the facts set forth that diphtheria cannot have been as prevalent as the notifications suggest. Another difficulty in this district is occasioned by the large scale on which works of sewerage have to be undertaken. The district is now to be drained by the Western Valleys Sewerage Board and it is estimated that its share in the scheme of this board will entail a cost of about £45,000, a heavy burden to be placed on an assessable value of £41,000, even when spread over a long period of years.

[1] London, Wyman and Sons, Fetter-lane; Edinburgh, Oliver and Boyd; and Dublin, E. Ponsonby. No. 212. Price 3d.

Practically all the old privies in the district have been replaced by water-closets but the district council has not insisted upon satisfactory closets being provided. Most of the latter are "hand flushed" and nearly all have been put in by unskilled workmen. The result has been the comparatively recent creation of a series of nuisances which in their degree are as objectionable as those which were caused by the privies. Dr. Fletcher points out the necessity of better administration in these and many other matters, such as housing, both for the general improvement in the sanitary state of the place and for diminution in the prevalence of enteric fever. The office of medical officer of health is miserably paid and Dr. Fletcher urges the advantages of a combination of districts in this part of Monmouthshire to secure the services of a health officer who is independent of private practice.

On an Outbreak of Enteric Fever at Denaby Main, in the Doncaster Rural District, by Dr. R. A. FARRAR.[2]—Denaby Main is a colliery settlement near Doncaster, occupied mainly by men employed at the Cadeby and Denaby Main Collieries. It consists of two portions, separated from each other by a wide open space—New Conisborough, with 996 houses and a population of 4830; and Denaby, with 698 houses and 3490 inhabitants. The houses are of good and comparatively modern construction; there is a constant and satisfactory public water-supply from deep wells at Cadeby Pit; an efficient system of sewers has been provided. In the autumn of 1904 enteric fever was prevalent in certain villages in the Doncaster rural district and attacked Denaby Main with considerable intensity. In New Conisborough 59 cases were notified between August 4th and Nov. 6th—one other had been notified on July 16th. Of these 60 cases 43 were males and 17 were females; nine deaths occurred. In Denaby 25 cases occurred between August 16th and Oct. 7th. The interesting point of these outbreaks is their limited range. In New Conisborough nearly all the cases occurred in dwellings situated in two adjoining and parallel streets and in Denaby a similar limitation to a small portion of the settlement was noted. Dr. Farrar discusses the etiological questions involved in considerable detail. At first it appeared possible that the local water-supply of the two streets affected in New Conisborough was at fault. These streets, or parts of them, receive their water from a branch main which, near its origin, was found to have been left exposed for several months before August, when a small portion of it was relaid and it was covered up. The result of Dr. Farrar's inquiries as to the opportunities of insuction of infectious matter into this branch main, in consequence of this interference or otherwise, was, however, negative. He was also able definitely to exclude milk as a source of infection. The probable origin of the New Conisborough outbreak, he concludes, was the presence in certain of the capacious privy middens of the affected streets of specifically infected matters derived from the earliest cases which occurred. There was evidence that flies were present in great abundance in the village during the autumn months and Dr. Farrar suggests that the effect of flies settling on these middens and afterwards carrying infection to articles of food may have been limited in its results to the houses near the middens in question. As he says, our knowledge of the range of flight of the house fly is very limited, but it is possible that when food is abundant this range is very short. Something of the kind has been shown to occur in the case of mosquitoes. Dr. Farrar finds that the second localised outbreak, in Denaby, would be explicable in a similar way. In the affected streets at Denaby the privy-midden nuisance was as great as in New Conisborough and the testimony of householders to the unusual prevalence of flies was still more emphatic.

Reports on the Sanitary Circumstances and Administration of Districts appointing more than one Medical Officer of Health.—It is the custom of certain rural district councils to divide the area under their control between two or more medical officers of health, usually paying small or nominal salaries in each case. The Local Government Board appears recently to have given special attention to the sanitary conditions and the administration of rural districts in which these arrangements are made and has lately issued reports on inquiries by Dr. L. W. Darra Mair in respect of the Wrexham district (No. 210), by Dr W. W. E. Fletcher for Halstead district (No. 211), and by Dr. R. A. Farrar for Durham district (No. 213). In each of these reports the system of multiple medical officers of health is considered to be unsatisfactory and recommendations are made either for the appointment of a single health officer, or preferably for combination of the rural district with its neighbours for the purpose of securing a medical officer of health who is not also in private practice and is able to give sufficient time to public health duties.

[2] Ibid., No. 216, price 9d.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8196 births and 3860 deaths were registered during the week ending July 15th. The annual rate of mortality in these towns, which had been 12·9, 12·7, and 11·6 per 1000 in the three preceding weeks, rose again to 12·9 per 1000 last week. In London the death-rate was 11·7 per 1000, while it averaged 13·4 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 3·7 in Hornsey, 4·5 in Kings Norton, 5·0 in Burton-on-Trent, 7·2 in Walthamstow, 7·4 in Reading, 7·6 in Handsworth (Staffs.), 7·7 in Southampton, and 8·0 in Great Yarmouth; the highest rates were 18·3 in Barrow-in-Furness, 18·4 in Merthyr Tydfil, 18·5 in Salford, 18·6 in Stockport, 19·1 in Bootle, 20·5 in Burnley and in Sunderland, and 23·1 in West Bromwich. The 3860 deaths in these towns last week included 486 which were referred to the principal infectious diseases, against 348, 371, and 388 in the three preceding weeks; of these 486 deaths, 241 resulted from diarrhœa, 99 from measles, 70 from whooping-cough, 34 from scarlet fever, 26 from diphtheria, and 16 from "fever" (principally enteric), but not any from small-pox. In Brighton, Reading, Coventry, St. Helens, Cardiff, and in nine other smaller towns no death from any of the principal infectious diseases was registered; among the other towns they caused the highest death-rates in Wolverhampton, West Bromwich, Aston Manor, Stockport, Birkenhead, Bootle, Barrow-in-Furness, Middlesbrough, and Rhondda. The greatest proportional mortality from measles occurred in Bristol, West Bromwich, Barrow-in-Furness, and Sunderland; from scarlet fever in Devonport and in Blackburn; from diphtheria in Barrow-in-Furness; from whooping-cough in Hornsey, Walthamstow, Aston Manor, and West Hartlepool; from "fever" in Devonport; and from diarrhœa in Norwich, Aston Manor, Stockport, Birkenhead, Liverpool, Bootle, Middlesbrough, and Rhondda. No fatal case of small-pox was registered either in London or in any of the large provincial towns. The number of small-pox cases remaining under treatment in the Metropolitan Asylums Hospitals, which had been six, four, and five at the end of the three preceding weeks, had declined again to four at the end of last week; two new cases were admitted during the week, against one, one, and two in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2520, against 2427, 2473, and 2499 at the end of the three preceding weeks; 356 new cases were admitted during the week, against 325, 334, and 354 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 144, 140, and 90 in the three preceding weeks, rose again last week to 104, but were 51 below the number in the corresponding period of last year. The causes of 50, or 1·3 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bradford, Leeds, Hull, Newcastle-on-Tyne, and in 47 other smaller towns; while the largest proportions of uncertified deaths were registered in Brighton, Norwich, Birmingham, Leicester, Liverpool, St. Helens, and Blackburn.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 15·1, 16·5, and 14·7 per 1000 in the three preceding weeks, further fell to 14·3 per 1000 during the week ending July 15th, but was 1·4 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·2 in Leith and 11·5 in Aberdeen to 22·9 in Perth and 29·7 in Greenock. The 481 deaths in these towns included 25 which were referred to whooping-cough, 19 to measles, seven to diarrhœa, three to

"fever," and one to diphtheria, but not any to small-pox or scarlet fever. In all 55 deaths resulted from these principal infectious diseases last week, against 60, 65, and 57 in the three preceding weeks. These 55 deaths were equal to an annual rate of 1·6 per 1000, which was also the mean rate last week from the principal infectious diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 18, 31, and 26 in the three preceding weeks, declined again last week to 25, of which 15 occurred in Glasgow, four in Edinburgh, two in Dundee, and two in Aberdeen. The deaths from measles, which had been 18, 17, and 14 in the three preceding weeks, rose again to 19 last week, and included 11 in Glasgow, six in Edinburgh, and two in Perth. The fatal cases of diarrhœa, which had been 15, 14, and 13 in the three preceding weeks, further declined last week to seven, of which three were registered in Leith and two in Glasgow. The deaths from "fever," which had been three, two, and none in the three preceding weeks, rose again to three last week and all occurred in Greenock. The deaths referred to diseases of the respiratory system, which had been 74, 68, and 65 in the three preceding weeks, were again 65 last week, and were 16 above the number in the corresponding period of last year. The causes of 13, or nearly 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 17·9, 14·9, and 16·9 per 1000 in the three preceding weeks, rose again to 19·7 per 1000 during the week ending July 15th. During the past four weeks the death-rate has averaged 17·4 per 1000, the rates during the same period being 11·7 in London and 15·1 in Edinburgh. The 143 deaths of persons belonging to Dublin registered during the week under notice were 20 in excess of the number in the preceding week and included 17 which were referred to the principal infectious diseases, against six, seven, and eight in the three preceding weeks; of these, 14 resulted from diarrhœa, two from whooping-cough, and one from measles, but not any from small-pox, scarlet fever, diphtheria, or "fever." These 17 deaths were equal to an annual rate of 2·3 per 1000, the death-rates last week from the principal infectious diseases being 1·3 in London and 1·5 in Edinburgh. The fatal cases of diarrhœa, which had been two, two, and six in the three preceding weeks, increased last week to 17. The 143 deaths in Dublin last week included 45 of children under one year of age and 28 of persons aged 60 years and upwards; the deaths of infants were considerably in excess of the number in the preceding week, while those of elderly persons showed a slight decline. Four inquest cases and six deaths from violence were registered; and 61, or more than two-fifths, of the deaths occurred in public institutions. The causes of nine, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: E. B. Pickthorn to the *Isis;* G. H. Foott to the *Venerable* and C. G. Matthew to the *Resolution*, both on recommissioning; C. Strickland to the *Amphitrite*, on recommissioning; and J. W. O. Underhill to the *Hindustan*, on recommissioning. Staff Surgeons: A. Maclean, to the *Sappho;* B. F. Parish to the *Ariadne*, on recommissioning; and F. H. A. Clayton to the *Victory*, lent to the *Brilliant*. Surgeons: A. A. Chancellor to the *Venerable*, on recommissioning; J. W. Myles to the *Flora*, on completing; and W. G. Edwards and W. E. Ormsby to the *Victory*.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet-Surgeon Arthur Stanley Nance has been placed on the retired list, at his own request (dated July 8th, 1905).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Majors to be Lieutenant-Colonels (dated May 30th, 1905):—Brevet Lieutenant-Colonel Samuel Hickson, Henry J. Fletcher, Edward Davis, Simpson Powell, Frederick W. C. Jones, James Meek, Arthur E. Morris, Robert E. Mclesworth, Charles L. Josling, William T. Swan, Robert L. R. Macleod, Gofton G. Adams, James M. F. Shine, William B. Day, Charles T. Blackwell, Nicholas C. Ferguson, C.M.G., Samuel R. Wills, Michael L. Hearn, Richard H. Hall, Richard G. Hanley, Gerald Cree, Samuel C. Philson, John M. Nicolls, Frederick W. H. D. Harris, and James H. Curtis. The undermentioned Lieutenants are confirmed in that rank:—Robert G. Anderson, Charles P. Thomson, Robert J. B. Buchanan, George B. F. Churchill, George S. Wallace, William S. Nealor, Richard G. Meredith, Frederick E. Roberts, Arthur A. McNeight, Thomas H. Gibbon, James E. Hoar, Ernest B. Booth, Wilfred Parsons, Cecil D. M. Holbrooke, Ernest G. R. Lithgow, Pierce Power, James S. Pascoe, Charles W. O'Brien, George G. Tabuteau, Richard E. Humfrey, and William G. Maydon. Lieutenant-Colonel Frederick W. H. D. Harris retires on retired pay (dated July 19th, 1905).

INDIAN MEDICAL SERVICE.

A Royal Warrant has been issued, dated June 28th, amending the rules for promotion and precedence in the Indian Medical Service. The Royal Warrant dated Nov. 28th, 1903, is to be amended thus:—

The following is to be added to Article 1: "The Director-General of Our Indian Medical Service shall hold the substantive rank of surgeon-general, but may rank as lieutenant-general when approved by Our Secretary of State for India in Council."

The following is to be substituted for Articles 3 and 4:—"3. Except as otherwise herein provided, a captain shall be promoted to the rank of major on completing 12 years' full pay service, but this period may be reduced by six months in the case of an officer who produces satisfactory evidence of progress in any branch of knowledge which is likely to increase his efficiency. 4. Except as otherwise herein provided, a major shall be promoted to the rank of lieutenant-colonel on completing eight years' full pay service in the rank of major."

The following is to be added to Article 10: "An officer below the rank of colonel, who may be appointed as Our honorary physician or surgeon after retirement from the Service, shall be granted the honorary rank of colonel."

The following is to be inserted in Article 12 at the head of the table of ages at which officers shall be placed on the retired list: "Director-General, 62."

ROYAL ARMY MEDICAL CORPS (MILITIA).

Supernumerary Lieutenant (Honorary Lieutenant in the Army) W. H. G. H. Best to be Captain and to remain seconded (dated April 30th, 1905); Supernumerary Lieutenant (Honorary Lieutenant in the Army) H. Fox to be Captain and to remain seconded (dated May 28th, 1905).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain J. T. K. Thomson, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve of Officers (dated July 19th, 1905).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Ayrshire and Galloway: Surgeon-Lieutenant R. C. Robertson resigns his commission (dated July 15th, 1905). 2nd Lancashire: Surgeon-Captain H. R. Jones resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated July 15th, 1905).

Royal Engineers (Volunteers): 1st Middlesex: Surgeon-Lieutenant T. H. Chittenden to be Surgeon-Captain (dated June 26th, 1905).

Rifle: 2nd Volunteer Battalion the Loyal North Lancashire Regiment: Surgeon-Lieutenant H. J. Taylor to be Surgeon-Captain (dated July 15th, 1905).

DEATHS IN THE SERVICES.

The *Army List* for this month contains a notice of the death of an army medical officer who may be correctly termed a veteran of that department, Deputy Surgeon-General Andrew Semple, M.D., who died at Edinburgh on May 16th at the age of 76 years. This officer, who was a man of kindly disposition, had led since his retirement from the service a very quiet and unobtrusive life but, as will be noticed from the following record, he had seen a good deal of active service in his time. Deputy Surgeon-General A. Semple, Army Medical Department, joined the army in November, 1854, and retired in 1881. He served in the Crimean campaign, 1854–55, and was present at the siege and fall of Sebastopol and at the attacks on the Redan of June 7th and 18th (mentioned in despatches, medal with clasp). He also served in the

Abyssinian campaign, 1867–68 (medal); and in the Zulu campaign, 1879, when he was present at the battle of Ulundi (mentioned in despatches, medal with clasp). Deputy Surgeon-General Semple was unmarried and, owing to his modest and retiring habits, was a man of far more learning and culture than might have been supposed by those who did not know him well.

THE QUEEN AND THE RED CROSS.

It having been recently decided, at the suggestion and under the auspices of their Majesties the King and Queen, that it was most desirable to form a new Red Cross Society, in view of coördinating all existing societies which are concerned with the succour of the sick and wounded in war, a council under the presidency of the Queen has been appointed for that purpose. On the occasion of the first meeting of this council at Buckingham Palace on July 17th, at which the Queen personally presided, Her Majesty made a very graceful speech setting forth the nature and the objects of the new scheme. The Queen appealed to all the women of the empire to assist in carrying it out on the ground of its being essentially a woman's mission and work and the only practical way in which they could lend aid and succour to the army and navy in time of war. The purpose of the new movement is to incorporate the Red Cross Society, established some 35 years ago, with the National Aid Society. There is no need at the present time to set forth the vast benefits which have accrued from such societies. Their aims naturally appeal to our instincts of humanity. But to get the best obtainable results from them it is essential that there should be careful preparation and organised unified effort beforehand. The council appointed by their Majesties, under the presidency of the Queen, has Lord Rothschild as chairman and Lord Knutsford, Lord Esher, Lord Cheylesmore, and Mr. A. K. Loyd, M.P., as vice-chairmen.

THE QUEEN'S VISIT TO THE ARMY HOSPITAL, MILLBANK.

The Queen paid a surprise visit to the military hospital at Millbank on the afternoon of July 18th. Her Majesty was accompanied by their Royal Highnesses the Princess Victoria, the Duchess of Sparta, and Princess Frederick Charles of Hesse. The Hon. Sidney Greville was in attendance.

MEDICAL HISTORY SHEETS IN USE IN THE ROYAL NAVY.

In view of the importance of the medical history sheet for the purpose of diagnosis and of deciding claims for pension or gratuity in the case of invaliding the Admiralty has approved of the following rules being observed for the better security of these documents: "1. The medical history sheet should always accompany the parchment certificate until the man has been discharged from the service, when the history sheet should be sent to the Medical Department of the Admiralty. If a history sheet is missing the fact is to be at once made known to the ship or depôt whence the history should have been received, which will be held responsible for its being replaced. 2. All ships, depôts, and hospitals not already having them will in due course be supplied with locked cupboards, with pigeon-holes alphabetically arranged, for the custody of the medical history sheets. 3. Medical history sheets are never to be allowed in the possession of any petty or non-commissioned officer, man, or boy. 4. At inspections the senior officer is to insert on the paper of inspection a note as to whether the rules respecting medical history sheets are properly observed."

THE WAR IN THE FAR EAST.

All that need be said regarding the news, which is mainly of a military and non-medical nature, from the theatre of war is that the island of Sakhalin is once more in Japanese hands, that General Linievitch's forces in Manchuria are stated to have been reinforced strongly, that Marshal Oyama's forces still remain relatively inactive, and that their Russian adversary is said to have relinquished the idea of making a big offensive movement in favour of one of a defensive character and has accordingly been concentrating his efforts in strengthening the works and position in this respect. It is feared that the railway from Harbin to Vladivostok will be cut within a short time by the Japanese. The heat is at present described as being great and the rainy season, so inimical to any active military operations, has set in. So far as we have any statements about the sanitary and health conditions of the enormous armies in the field the soldiers comprising General Linievitch's forces are said to have been suffering of late a good deal in health but the accounts are conflicting and untrustworthy. There would seem to be a widely prevalent and possibly growing feeling of disaffection and unrest in Russia and Russian Poland, and it is not to be wondered at that under existing conditions fears of coming famine and epidemic sickness have been expressed. Meanwhile arrangements are going on for the projected peace conference with varying statements from time to time, hopefully confident or otherwise, as to their progress.

Correspondence.

"Audi alteram partem."

SCIENTIFIC REPORT OF THE IMPERIAL CANCER RESEARCH FUND.

To the Editors of THE LANCET.

SIRS,—It is in no way our present purpose to comment upon the long statistical sections of the report recently issued by the executive committee of the Imperial Cancer Research Fund, for these, though of no special import in the present, will undoubtedly be useful at some future time. In the concluding paragraphs, on the other hand, we find what professes to be an epitome of the work of various authors, and here the matter is of a very different kind. The General Superintendent of Research produces a number of short statements which are intended to convey, for reference and for study, the conceptions of individual investigators, and these are prefaced by the following remarks:—"It will serve to delimit the directions in which the explanation of the growth of cancer must be sought if we review the various theories and hypotheses which still find currency as explanations of the nature and origin of cancer, and incidentally of its powers of growth." That such an undertaking is desirable no one is likely to dispute, but in order that it may have any value it is necessary that it should be not only an accessible, but also an accurate, statement of the works with which it deals. In view of the importance of the last condition it consequently appears necessary to draw the attention of your readers to the manner in which it is fulfilled in what professes to be a statement of the conceptions of Professor J. B. Farmer and ourselves regarding the "gametoid" nature of malignant growths. In thus limiting the discussion it is not in any way implied that we agree with the preceding matter of the report. We desire simply to draw attention to the character of a single section. After quoting a portion of a preliminary communication made in 1903 in the Proceedings of the Royal Society and without any reference to subsequent papers by ourselves, the General Superintendent proceeds as follows:—

> The views Prof. Farmer and his colleagues have elaborated amount to stating that malignant new growths arise by the transformation of the differentiated body tissues into reproductive tissue of modified character, which they specify by the term "gametoid," to distinguish it from the true gametogenic or reproductive tissue. They ascribe powers of proliferation, independence, and malignancy to this "gametoid tissue," which qud its character as reduced tissue, i.e., with half the somatic number of chromosomes, behaves as a parasite to the surrounding tissues. They particularise their meaning by drawing an analogy with what they have described in apospory, where the new prothallus (reduced tissue) is said to eat its way backwards along the fern frond from which it has arisen: they describe in detail in a malignant new growth three zones of cells corresponding to the spermatogonia, spermatocytes, and spermatids of the testis.

Firstly, then, and this is a very minor point, we are stated to ascribe the origin of malignant new growths to the transformation of differentiated body tissues into reproductive tissue of *modified* character. That is to say, we regard cancerous tissue as transformed reproductive tissue, for to be "modified" is to be altered or transformed. We may say that we never entertained any such idea. What we did say was that on the assumption of malignancy, tissues presented some of the characteristic features of reproductive cells—i.e., heterotypical and other mitoses with reduced numbers of chromosomes. In itself the use of the term gametoid implies that we regard these cells of malignant tissue as like, but not identical with, reproductive cells. Secondly, we are said to ascribe powers of proliferation, independency, and malignancy to gametoid tissue. We make no such general postulate. For anything that our observations indicate, gametoid tissue might, and possibly

does, exist without any of these properties. That the particular gametoid tissue associated with cancer possesses them no one, we think, is likely to dispute. Thirdly, it is stated that "they particularise their meaning by drawing an analogy with what they have described in apospory where the new prothallus (reduced tissue) is said to eat its way backwards along the fern frond from which it has arisen." With regard to the first part of this statement the General Superintendent is obviously under some misconception. We have never made any original contributions to apospory in this relation. The phenomenon has been generally described by Professor Bower and others. It is well known to fern fanciers and Dr. E. F. Bashford is apparently not acquainted with the fact that prothallial tissue is sometimes formed without any reduction taking place. With regard to the latter part, we have pointed out that in different parts of certain tumours cells of somatic, heterotype, and homotype characters are markedly in evidence, which is something very different in form and in substance from the above assertion. Besides which, all these facts were subsequently confirmed by the observations published by the Superintendent of Research himself. Fourthly, it is stated that :—

> An integral part of their explanation of cancer is based upon their view that the reproductive tissues proper arise merely by a transformation of somatic tissue. A similar change occurring at abnormal sites and times gives rise to the modified reproductive (gametoid tissue, which is cancer.

To begin with, the discovery that reproductive tissue arises by a transformation of somatic cells is in no way due to us. In the young soma of various animals the reproductive tissue becomes differentiated from it at various periods. With regard to the latter part of the above statement, we never supposed, since it does not appear to be the case, that similar changes in abnormal sites necessarily give rise to cancer, for example, Bidder's organ in the male toad. It will thus have become obvious that instead of the epitome of the gametoid theory contained in the report under consideration presenting an accurate statement of our views, of the four principal statements into which it is divisible it may be said: The first is inaccurate. The second is inaccurate. The third and fourth are equally inaccurate and that together they constitute nothing more nor less than a complete misrepresentation of the position we have taken up.

These somewhat necessary corrections having been accomplished we would gladly have left the whole report for some more edifying occupation, but, as will be found in its concluding pages, the General Superintendent posts up a number of alleged characteristics which *he definitely states* collectively embody the fundamental characters of cancer and to which all hypotheses and theories whatsoever must necessarily conform. Without more than stopping to suggest the fact that where observations do not agree with the alleged characteristics of anything it is generally so much the worse for the alleged characteristics, we append these statements as they stand with the author's comments upon his own misrepresentation of our views on the right-hand side and lettered A to H for reference.

	A.	
Circumscribed nature of primary area or areas.		This was not clearly realised by the authors. The hypothesis implies a progressive transformation of somatic into modified reproductive tissue.
	B.	
Relative independence.		Tissue, with half the somatic number of chromosomes has this property in plants, and independence is postulated for the similar tissue alleged to constitute the essential part of malignant new growths.
	C.	
Power of continuous growth.		Postulated for the "gametoid tissue" of cancer.
	D.	
Infiltrative and destructive character.		The authors recognise an analogy for the infiltrative and destructive character of cancer in the similar behaviour of tissue with half the normal number of chromosomes in plants, and at the same time admit that the infiltrating margin of malignant new growths in man consists of cells with the normal number of chromosomes.
	E.	
Metastasis formation.		It is said to be due to the continuous introduction of cells which have undergone the change into "gametoid tissue."
	F.	
Age incidence.		This is not explained by the hypothesis.
	G.	
Single differentiation.		This has not been realised by the authors. The cells are stated to assume the appearance of indifferent germ tissue.
	H.	
Transmission with all its limitations.		Its limitations and nature are not taken into account. Actual contact. Continuous introduction of cells. Continuous application of suitable stimulus under very peculiar conditions.

(A) This was, and is, one of the characters of cancer with which we have been primarily concerned. After much consideration we are not clear what hypothesis is meant, but no suggestion of ours implies anything of this sort.

(B) Tissue with half the somatic number of chromosomes has sometimes, but not always, this property in plants. Reduced tissue is not regarded by us as constituting the essential part of malignant new growths.

(C) Power of continuous growth is not a peculiar property of cancer. Poplar and pear tree grafts exhibit it admirably. Consequently, in accordance with the dictates of prudence and discretion, no such postulate was made by us. In this connexion one may go further. The unlimited powers of growth, recognised by everyone in cancer, are paraded through the long length of the report as one of the chief attributes of the disease and the discernment of it as one of the chief results of the work in the laboratory of which Dr. Bashford is in charge. To us this so-called discovery seems nothing better than a needless recognition of what has been known to biologists for years.

(D) This paragraph might stand, but it would be better were the word "state" substituted for the word "admit."

(E) No statement that we have made involves "continuous introduction of cells."

(F) One was under the impression that the researches of Maupas, Hertwig, and others on the senility occurring under certain conditions in protozoon swarms brought this matter into conformity with the interpretation that we have put upon our observations.

(G) This matter was fully considered and whether as in some cases the cells do or do not assume the characters of young tissues is from our point of view of no importance.

(H) Its limitations are interesting in themselves, but in no way affect our position.

It might seem that since the epitome of the gametoid theory was previously shown to contain nothing but an inefficient travesty of the views it professes to portray comment upon the involved statements in the above table was unnecessary. A little consideration will, however, show that this is not the case. In the table hypotheses attributed to us are criticised in relation to a number of formulæ, some of which, like the continuous growth statement, have no significance and all of which are open to the most obvious objections. Consequently it is most necessary to make clear the manner in which assumptions that are not ours are made to appear as if governed by criteria we should instantly repudiate. In other words, the Superintendent criticises as ours statements we never made, and then tries them by tests which, had we made such statements, we should certainly not admit as having any value. Moreover, it appears that Dr. Bashford cannot have apprehended the logical termination of his own assertions. It should be pointed out that, provided his own observations upon the alleged fusion of the nuclei of cancer cells be valid, his acceptance of the gametoid theory is a logical necessity. Such fusions, preceded by the heterotype and homotype mitoses we originally observed, observations which he himself has subsequently figured and confirmed, are without meaning unless the original tissues in which reduction has occurred are assumed to have acquired the characters of reproductive elements, to be able to fertilise each other—that is, to have become gametoid in process.

Either Dr. Bashford and Dr. J. A. Murray are wrong in their observations upon nuclear fusion, or they have themselves produced the trump card in the gametoid theory they

are attempting to repudiate. In these circumstances it is not without a sensation of amusement that we offer them our opinion upon this matter, since it may deliver them from the horns of a dilemma between which they are at present absolutely pent up. We have never encountered anything in the least suggesting the fusions they have described and the figures and preparations of this process they have hitherto exhibited would convince no one who, having dealt with similar cytological matters, is familiar with the immense difficulty of observation and the abundant sources of misconception that are involved. On the other hand, the extraordinary behaviour of certain leucocytes in the earliest examples of malignant growths appears to supply this missing term in the gametoid theory. They are, however, wholly dissimilar in nature and position to the processes referred to above.

Here, again, we would gladly have broken off and left others to form their own opinion of the final passages of this singular report, but since in these general biology is involved it seems necessary to lodge some protest against statements the true perspective of which may not be apparent to those who have assailed the cancer problem from its medical approach. It is here, moreover, that a curious unintelligibility often characteristic of the verbiage of the report breaks into full bloom. For example, on page 95 we read:—

Circumscribed nature of primary areas or area.	Proved to be an adequate explanation, by the reproduction of all the characters of sporadic growths by transplanted tumours.

On the left we have a statement posted as embodying an attribute of cancer. In the comment on the right this attribute is said to be an explanation of itself. One has encountered the apostle of the obvious but without exaggeration the present statement is equivalent to saying:—

Copper kettles have the characters of kettles made of copper.	Proved to be an adequate explanation by the production of copper kettles out of copper.

Again, on the same page—

Power of continuous growth.	Experimental propagation is a manifestation of this power of the parenchyma. Its unlimited nature has been revealed by propagation, and indicates that an explanation of the amount of growth which suffices to kill the individual primarily affected, may be inadequate to explain the power of cell division which resides in malignant tissue as such.

We freely admit our limitations and state frankly that much study has failed to enable us to make out any kind of meaning in what is written in the right-hand column. One can only protest again that continuous growth is *not* a special character of cancer cells.

Again, on the same page:—

Infiltrative and destructive character.	Shown to be separable from mere growth of which it is probably a consequence.

To most people the assertion that thing B is a consequence of thing A implies that they are bound together, while mere growth, as in the case of a fibroma, does not of itself endow cells with the properties of infiltration and destructiveness.

It would be quite unnecessary, and certainly tedious, to go further, and there remains only the necessity to draw attention to one final passage of the report in which the author says:—

> The fresh light thus thrown on all the features of cancer has enabled us to prove what has long been surmised. The attributes of cancer are the mere consequences of its growth, which is its only constant property.

There is a triumphant and prophetic ring about the former of these statements, yet we have looked in vain through the pages of the report for the promised light. All that one finds is, "The attributes of cancer are the mere consequences of its growth"! We readily credit Dr. Bashford with the possibility that this sentence as it stands does not express his actual meaning. If it does we can only remark that it appears to be a wholly erroneous assertion. Surely the reducing divisions, the existence of "Plimmer's bodies" corresponding to the archoplasmic vesicles of sperm cells, and so on, are all attributes of cancer, but in what possible way can these be regarded as "mere consequences of its growth"? The statement is unintelligible.

In conclusion, let us, however, say that we regret, as much as any of your readers can do, the necessity for these criticisms, and that though sorely tempted we have endeavoured to keep what has been said within the limits of propriety. Some explanation is, however unavoidable. The reports of the Imperial Cancer Research Fund are widely read and nothing sticks like the mud of misconception when it is allowed to creep unchallenged into the publications of what ought to be an authoritative source.

We are, Sirs, yours faithfully,

J. E. S. MOORE,
Director of the Cancer Research, University of Liverpool.

July 10th, 1905. C. E. WALKER.

THE PRINCIPLES OF HEREDITY.

To the Editors of THE LANCET.

SIRS,—In his recent Romanes lecture, entitled "Nature and Man," Professor Ray Lankester (page 28 and note 7) points out that in extra-human nature disease is a minor phenomenon; that individuals alone survive who can tolerate disease without injury, thus establishing immune races; that diseases are unknown as constant and normal phenomena except in man and domesticated races; that when diseases do become prevalent in nature they have been introduced by man or his domesticated herds. Thus the trypanosome lives in the blood of wild game and rats without producing mischief: the hosts are tolerant of the parasite. It is only when domesticated races are introduced, say into Africa, that disease becomes mischievous, so much so as in some regions to exterminate the big game. The disease does not establish itself as a scourge against which the diseased organism incessantly contends. It either obliterates its victims or settles with it into relations of reciprocal toleration.

In dealing with malaria Mr. D. M. Eder[1] says that it was formerly prevalent in England and that it is not now so presumably because, if Dr. Archdall Reid's reasoning be correct, the food-supply of the parasite has been exhausted and thus all Englishmen should be immune. That they are not immune is proved by Englishmen still suffering from malaria in our colonies. Without questioning what extent of England formerly suffered from malaria, nor whether the banishment of the disease is due to drainage, one is led to question whether Mr. Eder has really tried to understand the subject. Dr. Reid has pointed out that there are two diseases (tuberculosis and leprosy) immunity against which is inborn. For the other zymotics evolution has proceeded along lines of "an inborn capacity of acquiring capabilities for making resistance." This does not imply that those who are capable of acquiring immunity are insusceptible to infection. What it does imply is that those who have this power, other things being equal, are more likely to survive and continue the race. Nay, more, Dr. Reid has explicitly stated that though immunity against malaria may be acquired it is swiftly lapsed and thus re-infection is perhaps the normal condition. That immunity is not a question of food-supply is proven by microbes flourishing in the serum withdrawn from the body of an immune animal. As presumably each individual in West Africa suffers from malaria Mr. Eder's argument as to the food-supply breaks down. Again, surely Mr. Eder forgets or ignores the law enunciated by Dr. Reid that sexual reproduction is for the production of regression and if this is so how can a race become so immune that any disease by which it was formerly afflicted dies out?

Mr. Eder, in support of his contention that the Spaniards of unmixed descent are heavy drinkers—that is, drink for the mental effect—quotes the British Vice-Consul as saying "that intemperance is general among the working classes" of Oruro, Bolivia.[2] Yes, but Mr. Eder forgot to quote the preceding sentence that "the *half-breed* is the labourer of the country." With regard to the Jews Mr. Eder's experience seems to be unique. It is certainly the opposite of my own many years ago in Old Ford, and it is the opposite of those who practise largely in the Jewish district in Liverpool. If Mr. Eder has met so many Jewish alcoholics surely others must have met them also. Against a mass of evidence that can be adduced we have Mr. Eder's assertion. Which are we to believe?—I am, Sirs, yours faithfully,

Liverpool, July 9th, 1905. C. R. NIVEN.

[1] THE LANCET, June 17th, 1905, p. 1676.
[2] THE LANCET, June 17th, 1905, p. 1686.

THE USE OF PHENYLHYDRAZIN IN THE EXAMINATION OF URINE.

To the Editors of THE LANCET.

SIRS,—Dr. P. J. Cammidge in his recent paper[1] discourages the use of the water bath in using the phenylhydrazin test. This is an attitude not to be lightly assumed by one in the position occupied by Dr. Cammidge, for the water bath method has been so strongly insisted on by von Jaksch, Hirschl, and other authorities as a means of preventing the osazone compound of glycuronic acid from being precipitated in a crystalline form—a compound so likely to be mistaken for dextrosazone. According to Dr Cammidge this adventitious precipitation occurred in 4 per cent. of his cases when the water bath was used and only six times with the free flame. This experience is quite contrary to mine, for although I have not kept statistics on this point I find that I practically never meet with it since using the water bath, whereas when I used the free flame I used to meet with it occasionally. That the water bath method has advantages over the rapid method he admits when dealing with the microscopic examination of the crystals, for in referring to lactosazone he says: "In preparations made by the rapid method the individual crystals are not usually as distinct as those formed after prolonged heating in the water bath," and with regard to maltosazone he also says "preparations made by heating in the free flame are less characteristic." Both of these statements I can vouch for; indeed, the same is true of all the sugars. Surely the method whereby the best crystals are obtained is the one to adopt, for the identification of a sugar by means of the microscopic appearance of its osazone is practically relied on by clinicians. This, I need not add, does not apply to lævulosazone, for lævulose is the isomer of dextrose and their osazones are indistinguishable.

Dr. Cammidge also says that "in the water bath even an hour is not sufficient to obtain a satisfactory yield with maltose, lactose, and pentose, an hour and a half or two hours being required to demonstrate their presence satisfactorily, especially when the solution is weak." Here I quite disagree with him, for I find that half an hour in the water bath gives a good crop of crystals on cooling with aqueous solutions of these bodies of only 0·3 per cent. strength. Dr. Cammidge contradicts himself when dealing with the rate of osazone formation, for he says that "the osazones of maltose, lactose, and the pentoses only form after much more prolonged heating," whilst in the next sentence he says: "In my experience the rapid method of performing the phenylhydrazin test gives a reaction with all sugar." In dealing with the melting points Dr. Cammidge omits to give that of the glycuronic acid compound and the comparatively low melting point of 115° C. is one of its most distinctive features.

I am, Sirs, yours faithfully,

L. C. S. BROUGHTON.

Langley Green, Birmingham, July 11th, 1905.

[1] THE LANCET, July 1st, 1905, p. 14.

MOTOR SIGNALLING.

To the Editors of THE LANCET.

SIRS,—Will you give your valuable help towards getting an extended mode of signalling between drivers of motors and riders and drivers of horses? At present, in the day-time, there is only one signal—the uplifted hand. At night, the most important and dangerous time to the medical profession, there is none. When riding or driving a nervous horse in the day-time one does not want to bring every motor-car to a dead stop. It is often easier to drive such a horse past a slowly moving car than past one which is stationary and which has its engine going. I suppose the horse, like some sanitarians, thinks a moving smell less objectionable than a fixed one. In the day-time when meeting a driver I know I extend my arm at right angles to the trunk if I want him to slow down. At night the best way I have found for attracting a driver's notice is by covering the right lamp with the hand, using it like a "flash light" at sea. When meeting a motor in the dark this could be made to signify: right lamp covered once, go slow; twice, stop. In the case of a car coming up behind, the red light at the back could be used in the same way. It should now be made compulsory for all gig lamps to show a good red light behind. By a very simple method the driving lamp could be made to show any coloured light "fore and aft" and could be easily worked by the driver. There is no reason why good feeling should not exist between all users of the King's highway. Motors mean to stay, so we must make the best of them. If we can create a healthy public opinion the road hog (the present curse) will die of inanition.

I am, Sirs, yours faithfully,

Thrapston, July 17th, 1905. T. W. BUCKLEY, M.D. Durh.

THE PREVENTIVE TREATMENT OF CONSUMPTION IN AUSTRALIA.

To the Editors of THE LANCET.

SIRS,—I ask for a small part of your space to correct an error in the letter of "your own correspondent" in Australia published in THE LANCET of April 22nd. In a paragraph headed "Prevention and Treatment of Consumption" he writes, "Dr. Philip Sydney Jones recently gave an address ..... in which he advocated the isolation of every consumptive." I did not recommend so sweeping a measure as the isolation of *all* consumptives. What I did say was that the Government of the State should make provision for the isolation of advanced cases occurring among the poorer classes of the people and thus remove from our midst dangerous foci of infection. Your correspondent probably derived his information from one of our local newspapers which fell into the same error.

I am, Sirs, yours faithfully,

Sydney, May 30th, 1905. P. SYDNEY JONES, M.D. Lond.

FREEMAN *v.* APPERLY.

To the Editors of THE LANCET.

SIRS,—I am anxious through the medium of THE LANCET to thank most heartily those members of the London and Counties Medical Protection Society who have so kindly contributed to the fund raised to help me with the very heavy expenses entailed by the recent action for damages brought against me in the Gloucester county court. Though not a member of the above society until after the operation which resulted in this action I received most valuable help from its officers, both in advice and in the matter of witnesses, and now the society, though not liable in any way, has raised a fund among its members as a help towards my expenses. I do not wish what I intend as a letter of simple but warmest thanks to the generous members and officers of the society who have done so much to help me should resolve itself into a eulogy of the society itself, but I feel that it is only right that I should publicly acknowledge the kindness and generosity of its committee and officers, especially mentioning the names of Mr. A. G. R. Foulerton and Mr. C. W. Glassington, who have given so much time and have taken so much trouble on my behalf.

I am, Sirs, yours faithfully,

Mandeville-place, W., July 12th, 1905. E. APPERLY.

THE INFLUENCE OF FRUIT ON THE PRECIPITATION OF THE URIC ACID OF THE URINE.

To the Editors of THE LANCET.

SIRS,—I shall be much obliged if you will do me the favour of allowing me to state in your next issue that, through an oversight on my part, the word *is* appears instead of *may be* in the passage "the quantity thrown down *is* independent of this" (page 142) in my article with this title.

I am, Sirs, yours faithfully,

Oxford, July 17th, 1905. WILLIAM J. SMITH JEROME.

MOUNT VERNON SANATORIUM AT NORTHWOOD.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of July 8th you say with reference to the report of Dr. A. W. J. MacFadden, medical officer of health of Edmonton, that "it seems almost a pity that some of the beds at the Mount Vernon Sanatorium at Northwood cannot be utilised by the sanitary authorities in Middlesex." As there it is, it does seem a great pity for some reasons that the whole of the Northwood institution is not set apart for

the county in which it is situated. Middlesex could support it if it were placed under the management of its supporters but such control is a *sine quâ non*, as without it the support could not be obtained, nor if the money were available could the desired end be carried out. The worst of it is that Northwood is not an "open-air" sanatorium properly so-called; it is far too sumptuous to be suitable for working-class patients and it must be far more expensive to carry on than a more suitable building.

I am, Sirs, yours faithfully,

GERARD CLARK,

Honorary Secretary, Middlesex Open air Sanatorium.

Ealing, W., July 12th, 1905.

PREGNANCY LATE IN LIFE.

To the Editors of THE LANCET.

SIRS,—Your article last week has suggested this communication, bearing mainly on the legal side of this matter.

Contrary to many foreign codes the common law of England allows no presumption that a woman (be she a spinster, a wife, or a widow) has passed an age when she can procreate and bear children. To the physiologist this is a matter of fact, dependent in most cases upon the menstrual climacteric, a phenomenon which is never "judicially noted as the invariable course of nature." For the purposes of forensic construction a woman, like a man, must be treated as capable of procreating children all her life, for the courts boast in this matter that they will never deprive a single living person of a possible interest or benefit. Lord Coke in 1624 stated a case relative to certain dowers which accrued if issue was born "albeit the wife be 100 years old ..... or the husband at his death was but four or seven years old, so as she had no possibility to have issue by him; yet seeing the law saith, that if the wife be above the age of nine years at the death of her husband she shall be endowed, and that women in ancient times have had children at that age whereunto no woman doth now attain, the law cannot judge that impossible which by nature was possible. And in my time a woman above threescore years old hath had a child—*ideo non definitur in jure*." Lord Coke would have us refer apparently to Genesis xviii. 11, and I. Timothy v. 9. In legal practice the question arises to-day in several classes of cases. It may be requested that money shall be paid out of court to those contingently entitled to it in the event of a certain woman not having children, she being well past the alleged age of child-bearing; as a matter of practical convenience the court has gradually recognised the high degree of improbability of issue and early last century, in the case of a woman aged 69 years, a trust fund was disbursed, "the parties entering into sufficient security by recognisances." Gradually the age limit has been reduced until it is now about 54 years and lately security has been dispensed with. The plea, however, is never allowed to infringe the inviolable "rule against perpetuities." A similar question arose in the old ecclesiastical courts where a husband pleaded sterility in his newly married but aged wife; he was not allowed a decree of nullity of marriage, as it was affirmed that he had presumably taken her *tanquam soror*. Actuaries meet the problem in insurances against child-birth and policies taken out by women under 50 years of age. Cases of pseudocyesis are pertinent, as with Joanna Southcote in 1814, who was 64 years old when she claimed to be supernaturally pregnant. Disputes as to legitimacy and supposititious children occasionally occur in connexion with women past mid-age. To the medical mind it appears *primâ facie* that a medical certificate could, as a rule, summarily settle the facts. But the legal mind considers the admission of such a practice as well indecent as capable of too wide extension. In 1787 Lord Kenyon, then Master of the Rolls, when asked to declare that a septuagenarian couple were past the age for procreation, declared: "If this can be done in one case it may in another, and it is a very dangerous experiment, and introductive of the greatest inconvenience to give a latitude to such sort of conjecture." He was evidently suggesting that should medical evidence be admissible the principle could be applied to much younger women, sterilised perhaps by surgical means, and *pro tanto* to men. In matters marital the law will not often inquire beyond *habilitas ad matrimonium*, the practical test of which is mutual ability to consummate marriage.

I am, Sirs, yours faithfully,

July 18th, 1905. LEGALIS.

DAVOS-PLATZ.

PRIVATE SANATORIUMS; PUBLIC AND POPULAR SANATORIUMS.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

II.[1]

IN dealing with the sanatoriums at Davos it is not my purpose to criticise at any length those numerous and luxurious establishments which cater for paying patients. Doubtless they are open to not a few abuses but in any case if, in the desire not to displease good customers, patients are allowed more freedom than is good for their health, the law, as already described, takes care that they shall not injure or imperil others than themselves. There is at Davos-Platz and Davos-Dorf a great variety of hotels and sanatoriums. There are, as already mentioned, hotels for the exclusive use of healthy travellers and tourists, and these may be distinguished by the fact that they have no verandahs or broad balconies for patients to lie out in the open air and sunshine. Indeed, what is called at Davos "the cure" seems to consist, in the main, of what on the Riviera is called "a sun bath." The principal difference is that in the former place there is generally an accompaniment of snow. As a consequence, the method of taking the "sun bath" differs. On the Riviera the patient simply strolls out, generally to the sea front, takes his seat on a bench, faces the south, and allows the hot rays of the sun to pour down upon him. At Davos there is a verandah or balcony which shelters him from the cold wind but is open in front to the rays and the heat of the sun. Therefore the sanatoriums have to be built facing the south. Then in the verandah there are deck chairs or couches. But the cold is so intense that ordinary rugs do not suffice and very generally a sort of fur bag is employed in which the patient places his legs. The lying out in the cold, freezing air, with the bright sunshine in mitigation, is the main feature of the cure. There are therefore hotels and boarding-houses which simply provide their lodgers with board, bedroom, and a balcony or verandah where the patients may lie down in the open as long as they like. Such places can hardly be called sanatoriums. A patient may do well there if he receives good advice and carries out the instructions but there is no discipline or surveillance. These are merely hotels which admit patients. Other establishments are genuine sanatoriums under the direction of a medical man who has a staff of medical men and trained nurses to assist him. In fact, they are hospitals, luxurious hospitals, with drawing room, billiard room, music room, and library, with everything that can help to render life pleasant, but where, nevertheless, a strict discipline is enforced and the patients are only allowed such pleasures and relaxation as will not interfere with their cure.

Of these, one of the largest and best known is Dr. Turban's Sanatorium. Here every minute of the day is provided for. When not taking his prescribed walk the patient must be lying down in one of the "cure galleries" or sitting out in the garden, or else he is partaking of one of the six meals served during the course of the day. Of these two are heavy meals and, contrary to the practice at Nordrach Colonie, no exercise is allowed immediately after the more substantial meals. The *régime* is one of moderate overfeeding. The galleries, or verandahs, where the patients lie and breathe the open air measure in all some 330 feet in length. In front there is a band stand, so that occasionally music is provided as a diversion. Some years ago the air in these "cure galleries" was examined and it was not found to be affected by the presence of the patients. The ideal gallery is that which is built away from the main building. (Fig. 1.) On the southern side there are blinds only; on the northern side there are wooden partitions or shutters that may be lowered or closed according to the weather or the condition of the patients. In one part of the shelter the back wall, so to speak, may be lowered altogether, so that the patient may be left with only the roof over his head and the dry wooden floor beneath his feet which is raised a little above the ground. The next patient may have the partition raised above his body but still open overhead and this opening may be more or less wide or closed altogether. At the two extremities there are glass windows which may

[1] No. I. was published in THE LANCET of July 8th, 1905, p. 113.

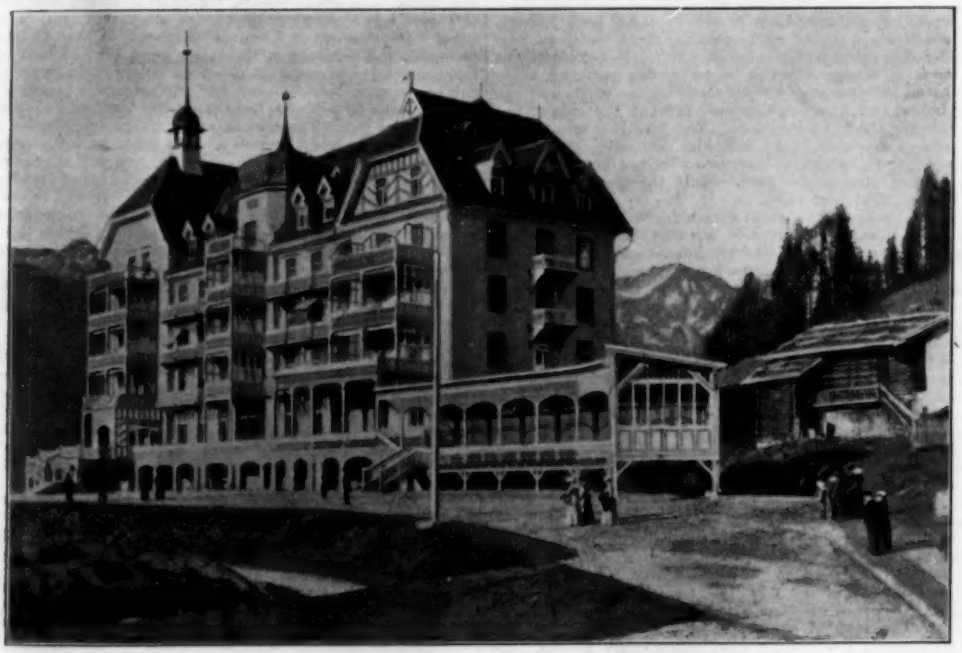
be opened or shut according to the direction of the wind. Thus while the amount of exposure to wind can be modified and the scorching rays of sunshine checked by canvas blinds, still the open air is enjoyed by the patients as they lie on good horsehair mattresses spread over their couches. Altogether in this sanatorium there is room for 90 couches in the open air and above them there is an electric light and by their side an electric bell. The estate on which the sanatorium stands consists of some 28 acres and here paths are carefully measured and have a fall varying from 4 to 10 per cent. Every 300 feet there are numbered benches for rest and the exercise prescribed can thus be measured out very accurately. The patient is told the number of the bench to which he must walk. On returning from this exercise he enters the cloak room where he hangs his overcoat or wraps in a partition made of well-oiled pine-wood. Here the clothes of the different patients are kept apart; there is no contact. Under the clothes in the partition there is a zinc tray for damp boots or goloshes. The floors of the sanatorium are covered with linoleum resting on felt which deadens the sound. The walls are enamelled and only wet or moist dusting is allowed. The principle is that of the exaggerated washing of occupied rooms and of immediate disinfection when the patient leaves. What, however, impressed me most favourably was the kitchen. It may be said that as much—indeed, more—care has been bestowed on the kitchen than on the drawing room. In any case it is on the same floor, is quite as lofty, has, if anything, more windows, and is certainly quite as clean and bright in appearance. Two sides are all window, there is a window in the third wall, while the fourth wall separates the kitchen from the dining room.

One and a half miles to the south of Davos-Platz, where the valley of the Sertig meets the Davos valley and at an alti-

FIG. 1.

Dr. Turban's Sanatorium at Davos-Platz: a shelter placed some distance in front of the main building.

FIG. 2.



Clavadel Sanatorium, Davos-Platz, showing broad balconies for the treatment of patients.

tude of 5530 feet above the sea, is the ideally situated sanatorium of Clavadel. (Fig. 2.) The beauty of the surrounding scenery, the climatic advantages, the innumerable walks in the pine and larch forests, and the shelter which the mountains give are all topographical advantages that can only be found in these favoured Alpine valleys. At this spot the native population consists of five persons, aged from 70 to 91 and whose aggregate age is 407 years. This seems to speak well for the climate. The question, however, was to see what could be imitated elsewhere and especially in popular sanatoriums. First, I would say that here, as at Dr. Turban's Sanatorium, I was delighted with the kitchen which was above ground, lofty, and bathed with light. Here the cutlery was pointed out to me as of special make. The arrangement for the handles is such that repeated exposure to jets of steam under pressure will not make them fall to pieces. Thus the knives, the spoons, and the forks are not only washed but disinfected. The same naturally may be said of the plates and the cups. Excepting the hall and the dining room, where there is an oak parquet, the floors are made with a coating of cement, some felt, and then linoleum with three inches of excess in size so as to turn up on nearing the walls and thus to round off the angles. The walls and the ceilings are varnished and painted so as to be washable and the wood of the furniture is painted with white enamel. But here there is an important omission. Underneath and inside the chairs, tables, or drawers in the dark, shaded, and unseen places, where particles of dust are more likely to be dangerous, there is no enamel paint but the bare porous wood. It is difficult to make an ordinary upholsterer understand that from the health point of view it is precisely what cannot be seen that is the most important. The rooms are without hangings or carpets and that is a very good thing. Then the windows are large and lofty and can be opened at the top when the patient cannot endure the throwing open of the entire window.

The rooms looking in a southerly direction have balconies but some of them have balconies of exceptional size. Indeed, they constitute a sort of supplementary room which may be considered as being partially out of doors. But excepting at the top floor, where there can be no balcony overhead, these very broad balconies throw their shade on the window of the floor below and, to a large extent, prevent the rays of the sun entering the room beneath. (Fig. 2.) It is true that at Clavadel these very broad balconies are only attached to large corner rooms which have two windows but elsewhere this is not always the case. It is therefore not amiss to notice the fact that while it is very tempting to offer a patient the great convenience of full outdoor treatment on a balcony outside his own bedroom window, this may have the serious inconvenience of preventing the full light of the sun penetrating the room below. The gallery built as a wing on one side of the sanatorium is admirably placed and is not in the way of any inhabited quarters. Yet it can be reached from the main building without leaving the cover of a roof, though the patients are in the open air.

The sanatorium is intended for the serious treatment of patients. It is not a pleasure resort and is so far from the dances, theatricals, concerts, and sports of Davos-Platz that there is no chance for reckless patients to commit an imprudence. On the other hand, the isolation is not absolute. There is some 300 yards away the "Curhaus Clavadel" with 27 bedrooms and two pensions of from six to seven rooms each, which do not profess to be sanatoriums but where the friends of patients and ordinary tourists can board for from 5*s.* to 8*s.* a day. Then there are the three or four peasants' cottages where the natives live to such a ripe old age. At the sanatorium board and medical advice, baths, douches, and massages are charged 8*s.* 10*d.* per day, but this does not include the cost of wines, mineral waters, medicines, or of the rooms. The rent of the rooms is charged separately and varies from 1*s.* 8*d.* to 5*s.* a day. Then every patient must pay 8*s.* for the disinfection of his room when he leaves. The fact that this last item is marked down in all the prospectuses is decidedly encouraging. It shows how thoroughly the necessity of disinfection is recognised and has become a part of the everyday customs and habits of the people.

Having thus said a few words concerning two well-known and typical private sanatoriums for paying patients, there remains the more complicated and more important question of the popular sanatoriums. Outside Davos-Platz, at some considerable distance and on the farthest side of the beautiful Davosersee, the Germans have established a popular sanatorium with 80 beds. In Davos itself, perhaps too near the centre of the town, is the Dutch popular sanatorium. (Fig. 3.) This, so far as the building is concerned, cannot be considered a model institution. It is not very far from the

FIG. 2.

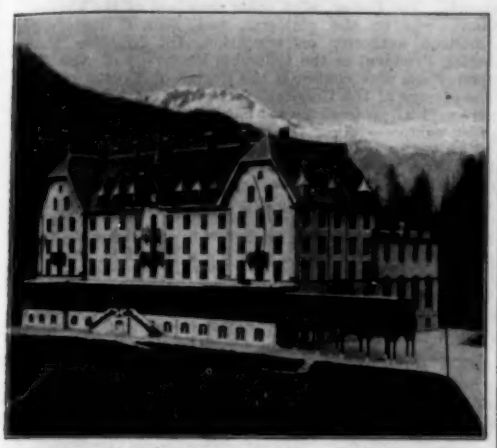
The Dutch Popular Sanatorium at Davos-Platz.

main road close to the point where Davos-Platz merges into Davos-Dorf, and though the building stands by itself with a good sized field before and behind nevertheless there are other houses close at hand. The invalids when they go out are near the main street, cafés and small taverns, and the other disturbing influences of town life. This, I take it, is not the ideal. On the other hand, there is nothing to prevent the patients enjoying the full advantages of the Alpine climate. The hills, mountains, and pine forests are close at hand, and those who have come all the way from Holland to this beautiful place must indeed deem themselves fortunate. The house is a great square building evidently not constructed for a sanatorium though it might suit as a hotel. Terraces or broad balconies have been built in front to enable the patients to lie in the open air and sunshine but there are bedrooms at the back where little or no sun can be enjoyed. Nevertheless, and reckoning this sanatorium as containing 50 patients, the cost of the building amounted to £150 per bed. The cost of maintenance is estimated at 5 fr. 56 c. (4*s.* 5½*d.*) per day. The patients are charged 4 fr. 90 c. (3*s.* 11*d.*) per day, which they pay themselves either out of their own pockets or through a benefit fund, or else by the intermediary of some charity. It will be seen, therefore, that there must be a deficit and consequently appeals for help have constantly to be made. There is but one resident physician who has, however, to see each patient at least once every day and more frequently when necessary. There are a few small rooms with but one bed but the majority of the rooms are larger and contain two or three beds. The usual diet consists of tea, milk, bread-and-butter, and cheese, or some sort of porridge made with boiled milk, given at 8 o'clock in the morning. At noon dinner is served and consists of soup, meat, vegetables, a sweet dish, and dessert. At 3 P.M. there is afternoon tea or a glass of milk. At 6 P.M. supper is served, which consists of meat, bread, butter, cheese, jam or honey, with coffee and milk. At 8 P.M. more milk is given. The diet, therefore, seems plentiful and the cost of the establishment moderate.

But more interesting, and serving better as a model, is the sanatorium founded by the Society of Public Utility of Basle. (Figs. 4 and 5.) This was opened on Dec. 14th, 1896. It contains 86 beds and cost £22,642, or £263 per bed. Here we have a vast building erected especially as a sanatorium and this on an ideal site. It is away from the town on the other side of the Davos valley. It nestles under the shelter of a pine-covered hill which supplies, and close at hand, not only shelter but the best of exercise ground. In front there is the open valley with the sun pouring its vivifying rays on to the façade of the building. Here the vast terraces form arms on each side of the building that stretch out as if to embrace the light and warmth. There is no lack of room for the patients to lie out under shelter and yet be in the open air. They will not inconvenience anyone. They are well out of sight nor will any noise or dust reach them. Of course the more healthy and strong could walk as far as the main street of Davos-Dorf or Davos-Platz and even without going that distance might find cafés or taverns to their liking. The patients, however, who are

found disobeying orders in this or other respects run the risk of being expelled from the sanatorium and a threat to this effect generally suffices to secure the necessary obedience and discipline. They would not easily find elsewhere equally beautiful and healthy surroundings, medical care, and generous diet. They have two breakfasts—coffee, milk, bread, jam, and butter at 7.30 A.M.; and more bread, butter,

FIG. 4.

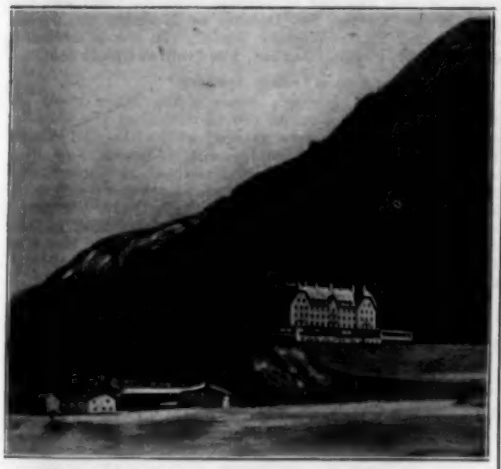


The Basle Popular Sanatorium at Davos-Platz.

cheese, and milk, alone or with a little coffee, at 10.30 A.M. Then there is dinner at 1 P.M., which consists of soup, meat, potatoes, and green vegetables, followed by stewed fruits and a special cake or pudding on Sundays. At 4 P.M. there are afternoon coffee, milk, and, on this occasion only, dry bread. At 7 P.M. they have supper consisting of soup and hot meat. The object is to make the patients eat a great deal.

As far as possible only patients in the early stage of disease are taken in, nevertheless some are sent who have

FIG. 5.



The Basle Popular Sanatorium at Davos-Platz, showing surrounding scenery.

already reached an advanced stage but who are without fever. The sanatorium has been open both summer and winter for eight years and excepting during the first few months has always been quite full. The strongest patients are given douches in the morning in a well-fitted bathing room, and at fixed hours, especially before meals, they are made to lie in the shelters and breathe quietly the pure air. Those who have no throat trouble may lie out of doors until 10 P.M. Indoors they sleep with their windows open and it is only when the weather is intensely cold that the lower part of the window is closed. Some of the bedrooms contain four patients but a separate room is given to natives of Basle for whom a payment of 4*s.* per day is made. For others the payment is 5*s.* 7*d.* All the walls are oil-painted and can be washed easily, though they are not enamelled. There is no difference in the food whatever payment may be made for the patients, the only difference being in the bedroom accommodation. In the dining room there are three rows of tables and the paying patients sit at the middle table. The medical and the managing staff and chaplain all take their meals with the patients and are content with the same food. There are always two—sometimes three—resident physicians. The kitchen has windows on both sides. The ceiling seemed rather low but the kitchen is above ground and large with plenty of room and air. The dining room also has windows on both sides so that a through draught can be easily established. There are several sitting rooms and a reading room. The partition can be removed in one case so that two rooms can be thrown into one, thus giving space enough for a prayer meeting or a concert or other entertainment. Outside there are a tennis ground, a shooting range, places for various games, and a carpenter's shop for those who wish to divert themselves by a little handicraft work.

There now comes the great question of cost. It has been calculated that in 1902 and 1903 the average consumption of meat per day per head was 364 and 362 grammes respectively; bread, 224 and 221 grammes; butter, 28 and 26 grammes; cheese, 36 and 40 grammes; milk, 1·8 and 1·8 litre; and egg, 0·5 and 0·4. Thus, with the exception of milk and cheese there was a slight reduction in the amount consumed in 1903 as compared with 1902. The milk costs 2*d.* per litre and some 68,000 litres are consumed in the course of the year. The food actually eaten is supposed to cost on an average 1*s.* 8½*d.* per day, but the general working expenses are put down at 3*s.* 0½*d.* per day per head. Though here and there a patient may pay 4*s.* a day most of the institutions that send patients to this sanatorium can only pay less than 3*s.* a day. 2*s.* a day is more like the usual figure, so that there is a constant deficit. The deficit would be still greater if an adequate sum was paid for interest and a sinking fund in regard to the capital expenditure. Consequently, frequent appeals have to be made for donations and charitable contributions. In 1903, 99 male and 102 female patients resided in the sanatorium. The proportion of deaths was equal to 0·9 per cent. and of those who derived no benefit 7 3 per cent. Of the 91·7 per cent. of those who were benefited 66·6 per cent. experienced what is described as the full economical effect of the cure. This means that they were able to return to their usual work. Others, to the extent of 20·2 per cent., were able to work but in a much less satisfactory manner, while 12·3 per cent. were not able to work at all.

It is satisfactory to know that an attempt is now being made on behalf of the English-speaking people to imitate the example given by the Germans, Dutch, and Swiss. A site has been purchased on which will be built what has already been denominated the Queen Alexandra Sanatorium. The cost of the land was £2918 and at the commencement of this year £7882 had been collected. It will be necessary to obtain more donations before a suitable structure can be erected; however, this will doubtless be accomplished in time and the British sanatorium will be able to profit by the experience already acquired in the immediate neighbourhood. Nor should there be any delay in the accomplishment of so useful and humane a work.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Royal Visit to Manchester and Salford.

AFTER a most successful visit to Sheffield the King and Queen honoured Manchester and Salford with their presence on July 13th, where the whole population had for some time been full of eager and loyal expectation. London,

with its frequent opportunities of seeing royalty both informally and in all the pomp of ceremonial pageantry, can perhaps scarcely enter into the feelings and emotions of our far-away northern towns when the pent-up loyalty of the people finds expression on the rare occasion of a Royal visit. In Manchester everything had been put aside so that full and fitting preparation could be made for showing the fervent loyalty pervading all classes of the people. Without attempting any explanation of the fact, it is as true in these democratic days as in old times that there is something in the associations surrounding an ancient reigning family which touches the imagination and the emotions; and when to this are added the respect and affection inspired by lives dedicated to the good purposes which have ever held a foremost place in the careers of King Edward VII. and Queen Alexandra, all such sentiments are deepened and intensified. The one event in the undistinguished and but too sombre lives of many of the tens of thousands who looked on their King and Queen probably for the first and last time that will never be forgotten is the glimpse they had of them on Thursday last and they will, perhaps, cherish the conviction that a smile or a bow was specially for them. It was a busy day. From the station at Hunt's Bank the procession drove up Market-street and in front of the infirmary in Piccadilly 30,000 children and more cheered and waved 30,000 flags, blue, white, and red. In Princess-street 8000 more children gave joyous evidence of their presence and in Albert-square as the King and Queen entered the town-hall the thousands of people assembled cheered again and again. Here addresses were given and responded to. Near the entrance to the town-hall 200 old soldiers of the Crimean war were drawn up. Among them were the halt, the lame, and the blind, but almost all of them marched past and saluted their Majesties as they were about to start for the Ship Canal. With half a dozen sergeants the King and Queen shook hands while "Where are the boys of the old brigade?" was asked musically by the volunteer band. Of course there were children everywhere and in front of the blind asylum there were some thousands and at the deaf and dumb school one of them who, though deaf, had been taught to speak, presented the Queen with a bouquet and the youngest child in the blind school, who was lifted up to the carriage, asked the Queen's acceptance of a "bunch of flowers" on behalf of the inmates of the blind asylum which she took with "tears in her eyes." After the ceremony of opening the new dock, said to be one of the largest in existence, the procession went on to Peel Park in Salford, where an address was presented, and at Oldfield-road, opposite the Salford Royal Hospital, the King, at the request of Colonel Sir Lees Knowles, M.P., unveiled a memorial erected by Salford to "many brave men who served their sovereign and country in South Africa in 1899–1902, and particularly in honour of the Volunteer Active Service Companies of the Lancashire Fusiliers." The next move was to the Victoria station, which was left by the Royal train at 4.45 for Knowsley. There was no hitch in the proceedings and no serious accident occurred in the seven miles of the route traversed by the Royal procession.

The Case of Plague at Manchester.

All cause of fear that the case of plague which recently occurred at Manchester would be followed by others seems now to be removed. The medical officer of health reported to the Tees port authority at a meeting held last week that on hearing of the death at Manchester he again inspected the ship in which the man who died came over and found all well. He also found the men who had been paid off and had gone into the town quite well and the inquiries he had made as to those who had gone to their homes were satisfactory. The man who had accompanied the poor fellow who died to Manchester returned to Middlesbrough wearing the dead man's silk scarf and a few days afterwards fell ill and, "showing all the symptoms of plague, was removed to the isolation hospital." Blood taken from this man was sent to London for examination and was reported free from any signs of plague. Shortly afterwards he and the others in the hospital were discharged and the ship left a day or two later for London. All on board the ship and those of the crew in the town had been removed to the hospital and a rat-catcher had cleared the ship of rats both dead and alive. These were sent to London for examination and were also reported to be healthy—i.e., free from any signs of plague.

Degree Day at the University of Manchester.

The conferring of degrees at the University of Manchester took place on July 8th in the Whitworth Hall. Lord Spencer, the Chancellor, was resplendent in Court dress with Garter and Ribbon and over it the violet gold-braided robe of the Chancellor with a violet and gold academic cap. This magnificence of attire, with "the splendid dignity of the Chancellor's entry," is supposed to have filled the students with awe as they were not so frolicsome as usual, only manifesting the spirit within them by giving a cheer when the Chancellor said he did not intend to make a long speech. The Bishop, with other members of the University Court, was on the platform, and also a distinguished American authority on education, Dr. Nicholas Murray Butler, President of the Columbia University of New York, upon whom was conferred the degree of Doctor of Laws. The passage of the Chancellor's address most interesting to the medical profession was that in which he spoke of the great scourge—yellow fever—which year after year carried off hundreds and thousands of victims in the West Indies. But now a work which can be traced directly to educational influences has been done by the American Government which has freed Cuba from the scourge, so that now it can be said that yellow fever no longer exists there. Lord Spencer was frank enough to say that he had "only this morning" heard of that great work and one wonders, therefore, whether he has heard of the self-denying and devoted labour by British workers, not by the British Government, in the investigation and treatment of tropical diseases. After receiving his degree Dr. Butler gave an eloquent address, in which he spoke of the two chief aims which he thought a university should serve in such a population as that of Manchester. "First to keep lighted the fires of letters and scholarship and to make plain that the vast material growth and expansion that we see on every hand has but added to the value of the old truths and ideals that have elevated mankind out of his barbarism to the civilisation of which we are so justly proud. ..... And next ..... to show the urban community and those depending upon it how their interests, their health, their growth, their education, and their prosperity may best be increased and furthered by the application of scientific truth and scientific method to the needs and necessities of the moment." The degree of Doctor of Medicine was conferred on the following gentlemen who were presented by the Dean of the Faculty of Medicine:—Miles Bracewell Arnold, Andrew Campbell Clarke, Mercier Gamble, Edmund Albert Goulden, John Percival Handel Greenhalgh, Charles Paget Lapage, Arthur Francis Martin, Samson George Moore, Harry William Russell, Claude William Scott Saberton, Samuel Woodhouse Thomson, and Thomas Tierney. A graduate scholarship in medicine was awarded to Thomas Wingate Todd and the gold medal among the Doctors of Medicine to Mercier Gamble and Harry William Russell. In the afternoon a garden party, largely attended, was given at Fallowfield.

Would-be Suicides.

At the Salford borough sessions the other week the Recorder stated that out of the 18 names on the calendar eight of the number were charged with attempted suicide. Family troubles, lack of employment, ill-health, and drink were the causes given for these attempts. He thought that this state of things was very serious and not creditable to the borough, while the problem of how to deal with the people was a very difficult one. In some places, both in this country and on the continent, the hot weather seems to have driven people to suicide and, of course, the accidental deaths from drowning have increased, as they usually do.

Cumberland Hospital Sunday and Saturday.

The total amount collected for the Cumberland Hospital Sunday and Saturday Funds is £1406.

July 18th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The Teeth of School Children.

SOME time ago Mr. E. Rice Morgan, one of the medical officers of the Swansea education committee, prepared a report upon the teeth of boys and girls attending five of the public elementary schools in the borough (an account of this report appeared in THE LANCET of Feb. 4th, 1905, p. 328), and at the end of last June he published the results of more extended observations in the same direction applied

to the industrial school. Of the 64 boys examined there were six with sound mouths and the remainder had an average of three decayed teeth each. It is of interest to compare these results with those found among the boys attending the public elementary schools. In the industrial school 9·3 per cent. of the boys had sound mouths while in the public schools the percentage was 3·3. The public school boys averaged 3·7 decayed teeth per boy, compared with 2·7 in the case of the boys in the industrial school. Mr. Morgan expresses the opinion that this difference is due to the fact that the boys at the latter school are less pampered than the children attending the public schools, that they have harder food to eat and thus make use of the muscles of the jaw to a greater extent, so improving the nutrition of the gums, and that they rarely have any spare cash to spend at the sweetstuff shop. In view of the fact that many of the industrial school boys will enter the army and the navy he urges the importance of a periodical examination by a dental surgeon.

Winsley Sanatorium.

At a meeting of the Bristol and Bath branch of the British Medical Association which was held at the Winsley Sanatorium on July 12th Dr. Lionel A. Weatherly gave some interesting details of the institution since the first patients were received last December. During the period indicated 57 of the 60 beds have been occupied. Altogether 85 patients have been treated and 31 have been discharged. Of the latter number seven have returned to their ordinary employment and 11 have found lighter work than they had previously been accustomed to. Eight patients were sent home without any signs of improvement, nine were very much improved, and in 14 instances the arrest of the disease was practically complete. Dr. Weatherly stated that the cases were roughly classified as (1) those in which they expected to get complete arrest of the disease; (2) those in which they might reasonably expect to get what would be practically a cure; (3) those in which they could hope for some little improvement and help the patients on for a few years; and (4) those which were unsuitable and for which from the moment they came in it was seen that little good could be done. He also spoke of the difficulty there was in finding suitable work with proper surroundings for those who had been treated in the sanatorium and suggested the formation of an after-care association for the purpose of dealing with such cases as needed to be dealt with.

Careless Conveyance of Arsenic Ore.

At the meeting of the Redruth (Cornwall) rural district council held on July 14th a discussion occurred in reference to the danger caused by the dropping of arsenic ore on the public roads from wagons belonging to a local mining company. The clerk stated that the attention of the company had been drawn to the matter but the nuisance had not been abated. It was eventually decided to invite the Redruth and Camborne urban councils to take joint action in the matter.

Taunton Isolation Hospital.

At the meeting of the Taunton town council held on July 11th a discussion took place in reference to the management of the isolation hospital. The subject has been already alluded to in THE LANCET. Eventually the council members of the hospital committee declined to serve on the joint committee with the rural district council any longer and the whole matter was adjourned pending the decision of the Local Government Board as to whether the town council or the rural district council would carry on the hospital as a single authority.

July 17th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The late Principal Sir William Muir.

Sir William Muir, K.C.S.I., late Principal of the University of Edinburgh, died at his residence, Dean Park House, Edinburgh, on July 11th. Until about a fortnight previously to that date he had been able to take regular carriage exercise but had latterly been confined to his bed. Sir William Muir was 86 years of age at the time of his death, having been born in Glasgow in 1819. His father, who was a merchant in that city and a member of the town council, died in 1821 and his widow with her four young sons then removed to Kilmarnock. Each of the four boys subsequently entered the service of the East India Company. Sir William Muir studied in the Universities of Edinburgh and Glasgow and subsequently spent two years in the East India Company's College at Haileybury. He then proceeded to India where he remained for 39 years. From the outset his administrative abilities were recognised and they were increasingly demonstrated as the appointments which he held became more important. As a young lad he was employed in connexion with the land assessment in Cawnpore and Bundelbund. In 1843 he was appointed to the magistracy and collectorship of Futtehpore, where he remained until 1846. During the Mutiny Sir William and Lady Muir, with some of their children, were among the Europeans shut up in the fort at Agra. After the Mutiny was subdued he became secretary to the Viceroy, Lord Canning, at Allahabad. In 1864 he was appointed a member of the Imperial Legislative Council of India and soon thereafter he became Secretary for Foreign Affairs to the Government of India. From 1868 to 1874 he held the important office of Lieutenant-Governor of the North-Western Provinces. During his rule over this district he made his influence strongly felt, especially in the departments of public instruction, sanitation, and economic progress. The Muir College and Allahabad University stand as monuments to his memory. In 1874 he became finance member of council. After holding this post for two years he retired from the Indian service, but for the following nine years he continued to work as a member of the Indian Council in London. He very much disliked the opium trade and strongly opposed the extension of opium cultivation. When the office of Principal of the University of Edinburgh became vacant on the death of Sir Alexander Grant the curators in 1885 elected Sir William Muir and for 18 years he exerted in Edinburgh the influence which intellectual ability combined with courtesy of disposition and a genuine uprightness of character is bound to produce. During his period of office various important developments occurred. The Universities Act of 1889 and the Universities Commission made alterations respectively in the constitution of the University and in the scheme of studies. Further, the Students' Union was built and the Students' Representative Council was formed. Later, by the erection of the M'Ewan Hall the University was provided with a building suitable for public ceremonial occasions. In 1902, after a period of ill-health, he intimated his resignation of the principalship and the University Court in accepting it entered on its minutes a high appreciation of the services which he had rendered in that capacity. Sir William Muir produced a number of important literary works, among which may be mentioned "The Life of Mahomet," "The Caliphate," "Mameluke Dynasty," "The Coran, its Composition and Teaching, and the Testimony it bears to the Holy Scriptures," "The Mohammedan Controversy, 1897," "The Apology of Al-Kindy," "The Rise and Decline of Islam," and "The Lord's Supper; a Witness to the Death of Christ." In recognition of his literary eminence he received honorary degrees from the Universities of Edinburgh, Glasgow, and Oxford. He also had the degree of Ph.D. of Bologna. The funeral, which took place at the Dean Cemetery, Edinburgh, on July 15th, was, in accordance with the wishes of the family, as far as possible of a private nature. The University Court, the Senatus, the Students' Representative Council, and the University Union were the only public bodies formally represented. On Sunday, July 16th, a memorial service, conducted by Professor W. P. Paterson, D.D., and the Rev. John Kelman, M.A., was held in the M'Ewan Hall under the auspices of the Students' Representative Council. It was attended by a large number of the professors of the University, by the executive committee of the Students' Representative Council, and by a large number of students.

The School of Medicine of the Royal Colleges, Edinburgh.

At a meeting of the governing board of the School of Medicine of the Royal Colleges, Edinburgh, the secretary and registrar, Mr. R. N. Ramsay, reported that the number of students attending the school during the winter session, 1904–05, was 1122 and during the summer session, 1905, the number was 1237.

University of Aberdeen: Interesting Memorials.

The portrait medallion, in marble, of the late Principal,

Sir William Geddes, by Mr. Pittendrigh Macgillivray, R.S.A., has now been completed and will during the vacation be placed in the recess reserved for it in the Geddes transept of the library at King's College. The medallion is an admirable work of art and the likeness is very striking. The sole inscription consists of the words "William Duguid Geddes" and the last line of the eleventh book of the "Odyssey" in the original Greek (suggested by Lady Geddes as a saying which the late principal delighted to quote as an incitement to his students). The translation of the line is: "First the toil at the oar and then the favouring breeze." The medallion will probably be unveiled at the opening of next winter session. At the same time the memorial to the late Professor John Fyfe will, it is hoped, be in position. This consists of a design by Mr. Douglas Strachan to be placed in one of the windows of the King's College library. The design symbolises bibliography, being one of a series suggested by Mr. Strachan to fill the seven main windows in the south side of the library and to represent theology, philosophy, literature, mathematics, fine arts, &c. The only lettering, in addition to the dedicatory inscription, consists of the verse from Proverbs, "Wisdom hath builded her house; she hath hewn out her seven pillars." A meeting of the committee having charge of the proposed memorial to the late Professor James Nicol was held in Marischal College on July 15th, Professor J. W. H. Trail being in the chair. Dr. William Mackie (Elgin), the honorary secretary, read a large amount of correspondence with geologists and old pupils of Professor Nicol, the general tenor of which favoured the placing in the geological museum of a portrait tablet in bronze, similar to those recently erected in memory of Professor Macgillivray and Professor Alleyne Nicholson. The amount received is nearly sufficient to meet the cost of such a tablet, and it is hoped that a few additional subscriptions will be intimated to Dr. Mackie before it is necessary to close the list. The committee aims at a formal inauguration of the memorial during the quater-centenary ceremonies next year, when many pupils of Professor Nicol will be in Aberdeen.

The Cost of Kingseat Asylum, Aberdeen.

The following is a statement of the payments to contractors and others up to date in connexion with the Kingseat Asylum. I send you these details because the figures in relation to the Kingseat Asylum are often quoted.

	£	s.	d.
Purchase of lands and cost of improvements, &c.	12,428	1	1
Improvement of ground	2,267	5	5
Mason	27,742	6	10
Carpenter	17,933	4	1
Plumber	7,017	11	1
Slater	2,689	5	0
Lath, plaster, and tile work	6,370	0	0
Painting, glazing, and papering	2,704	5	7
Iron, smith, and founder work	2,810	7	10
Heating and ventilating	6,827	17	2
Architect and clerk of works	4,997		6
Draining, fencing, &c.	2,01	4	1
Waterworks	4 789	10	10
Roads	2,449	5	7
Electric installation	5,786	3	0
Sewage purification works	1,889	4	1
Laundry machinery and cold storage plant	2,844	10	0
Household furnishings	163	8	10
Ironmongery and cutlery	477	15	4
Bed-coverings	1,934	0	11
Table linen and towelling	220	6	9
Mattresses and upholstery	1,148	1	3
Carpeting, floorcloth, &c.	651	2	11
Joiner and cabinet work	4,523	3	4
Stoneware and glass	142	3	7
Minor furnishings	1,580	16	6
Payments to others than contractors, including salaries of officials and preparing buildings for occupation	910	17	9
Total	£125,335	19	4

The accounts for the year show that there were paid for interest on loans £4002 18*s.* 9*d.*; instalments of sinking fund, £3893 11*s.* 5*d.*; taxes and assessment, £379 19*s.* 10*d.*; repairs and upkeep of the asylum buildings, £250 4*s.* 1*d.*; printing, &c., £178 0*s.* 5*d.*; and office rent, £60; making with other payments a total of £9207 13*s* 8*d.* In the farm account for the year there is a deficit of £586 17*s.* 9*d.*, and in the general account the deficit is stated to be £2862 18*s.* 6*d.* The maintenance of patients and expenses came to the substantial sum of £10,993 16*s.* 3*d.*, the chief items being the following: butcher's meat, £638; milk, £616; butter, £220; bread, £573; clothing, £2036; boots and shoes, £338; fuel, £1409; salaries and wages, £2588; carriage of articles and conveyance, £297; and incidental expenses, £217. In the estimates for the coming year the cost of maintenance is put down at £10,807 0*s.* 5*d.*, which with the debit balance for last year of £2862 18*s.* 6*d.* makes a grand total of £13,669 18*s.* 11*d.* It is estimated that the number of patients for the coming year will be 390 and that the average cost of maintenance per annum will be £35 1*s.*

July 18th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Serious Illness of Sir Antony Macdonnell.

THE Under Secretary, Sir Antony Macdonnell, has been suffering for some weeks. On Saturday, July 15th, he was removed from the Chief Secretary's Lodge in Phœnix Park and conveyed by an ambulance to the private hospital in Tower Mount-street where an operation was performed by Sir William Thomson. The bulletin of this evening, July 18th, states that the patient's strength is well maintained and his progress satisfactory. Telegrams of inquiry have been received from the King and also from the Pope.

Professorship of Chemistry to the Apothecaries' Hall.

The position of professor of chemistry to the Pharmaceutical Society's School of Ireland has just been filled by the appointment of Mr. P. Kelly, M.P.S.I., Dublin. He was formerly lecturer in pharmacy at the Ledwich School of Medicine and has since devoted his time to the study of pharmaceutical chemistry. He now succeeds the late Professor Tichborne, LL.D., L.R.C.S. Irel., who was long well known to the medical profession in Dublin as president of the Royal Pharmaceutical Society of Ireland, Government analyst for many counties, and for some years member of the General Medical Council.

Death of Mr. W. Duncan, L.F.P.S. Glasg.

Mr. William Duncan, who for the past 14 years has been in practice in Belfast, died on July 11th after a lingering pulmonary illness. He was only 46 years of age and owing to his skill, genial disposition, and sympathetic nature he enjoyed a large practice among the working classes of Belfast. He leaves a widow and family. He was buried in Castledawson, Co. Derry, on July 14th.

Health of Belfast.

At a meeting of the public health committee held on July 13th considerable discussion arose as to the high death-rate for the week ending July 8th, which was from all causes, 18·9, the highest amongst the great cities of the kingdom; and from the principal zymotic diseases, 1·9. This high death-rate was ascribed to irregular registration of deaths and the usual weekly fluctuations. For instance, in the week ending June 24th the death-rate from all causes was 12·6 (the lowest in Ireland), whereas it jumped up to 17·6 and 18·9 respectively in the two weeks following. Taking into consideration the nature of the occupations of the people, the medical officer of health contended that the health of Belfast was fairly satisfactory.

The Foreshore Nuisance in Belfast Lough.

The Select Committee of the House of Commons, after hearing evidence, decided on July 14th to confirm without any modification the provisional order made by the Local Government Board, under which a joint board is formed, representative of Belfast, Castlereagh, and Holywood, to prevent the pollution of Belfast Lough by sewage and decaying seaweed. There is a general feeling that the Belfast corporation would have been wiser not to have opposed the scheme; and as a result it has gained nothing but has spent a large amount of the ratepayers' money in a useless piece of opposition. The fact of the matter is that with the constant discharge into Belfast Lough of the sewage from 270,000 inhabitants it is rapidly becoming little better than a vast cesspool. This year, with such exceptionally warm weather on both sides of the lough, the stench is far worse than ever and is being felt at an even greater distance down the lough than before. The inhabitants on both sides of the lough are complaining more than ever and as a result the Belfast corporation is faced with a

very serious and expensive problem. Two courses are open: one is to continue tc construct bacteria beds with the idea of purifying the sewage before it enters the lough, and the other is to carry a sewer down on each side of the lough for miles so as to open into the sea at the mouth of the lough. The latter is the more expensive but it is really the only thorough solution of the question.

The Central Midwives Board.

The reply given by Mr. Long, Chief Secretary for Ireland, in the House of Commons to Mr. C. C. Craig, M.P., on July 6th in answer to a question asking why the Central Midwives Board of England had refused to place upon the roll of certified midwives nurses trained at the Belfast Maternity Hospital previously to March 31st, 1905, while it had placed on this roll nurses trained under similar conditions and up to the same date at the Dublin Maternity Hospitals, at the Cork Maternity Hospital, and at the Maternity Hospital in Limerick, has excited considerable surprise in Belfast. The Belfast Maternity Hospital was not recognised, he said, owing to its failure to apply in time. Now in the memorial presented to the Central Midwives Board by the board of governors and medical staff of the Belfast Maternity Hospital it is stated: "We have been informed that our request has been refused because it ought to have been made earlier. In reply, we beg to state that the delay arose on our part owing to the building of our new maternity hospital—the largest of its kind in Ireland outside Dublin—and in reply to a letter written to the chairman of the Central Midwives Board by a member of the medical staff, asking if it would do to apply after we had entered our new hospital, he was informed in a letter dated Oct. 14th, 1904, 'If you apply when your new hospital is ready the Board will consider the matter without delay'; we entered our new hospital at the end of last year and on Feb. 14th, 1905, we made formal application, so that the argument of not having applied in time does not hold." The date up to which nurses could apply was March 31st, 1905, so that the reason furnished to the Lord President of the Council for the Chief Secretary as an answer to Mr. Craig's question is totally inaccurate. But the Central Midwives Board will now have to reckon not only with the Belfast Maternity Hospital but with the Ulster Hospital for Women and with the maternity associated with the Belfast union infirmary, the authorities of all of which are complaining at the extraordinary action of the Central Midwives Board, and at a meeting of the Council of the British Medical Association held in London on July 5th it was decided to request the Central Midwives Board to reconsider the question "so that nurses trained in the Belfast Maternity Hospitals prior to March 31st, 1905, and who present certificates of having passed the examination at the end of their practical training shall be placed in the same position as nurses trained under similar conditions in the Dublin Maternity Hospitals and in the Lying-in Hospitals of Cork and Limerick, and who, up to March 31st, 1905, have been placed on the roll of certified midwives." The Central Midwives Board is by its action in this matter raising a great deal of opposition both among the public as well as among the members of the medical profession.

The Belfast Court-house.

A proposition was adopted by the Belfast grand jury on July 17th expressing gratitude to the high sheriff (Dr. H. O'Neill) for his efforts to bring about a better state of affairs in the building, sanitary and otherwise, for the accommodation of judges, advocates, jurors, and witnesses. The Lord Chief Baron endorsed the vote of thanks to the high sheriff.

July 18th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A Watering place Committee.

THE Minister of the Interior has just issued an order by which there is constituted as part of his department a permanent committee dealing with the watering places and climatic stations of France. This committee's duty will be to examine into the general needs of such places, to be, so far as it can, a body devoted to their interests, and generally to protect and to develop them. The Minister of the Interior is the honorary president of the committee. The mayors and the medical men of the various watering places, the directors and the committees of *sociétés thermales* are liable each in his turn to be summoned to serve on the committee but only for a period of three years. Extraordinary meetings may be summoned by the minister or on the demand of one-third of the members. The president of the committee is M. Armand Gautier, member of the Academy of Medicine; the vice-presidents are M. A. Carnot, inspector-general of mines; M. Caseneuve, deputy; M. Chautemps, senator; and Dr. Lannelongue and Dr. Robin, both of whom are members of the Academy of Medicine. The secretary-general is Dr. Huchard and there are some 60 ordinary members of committee.

Municipalities and the Public Health.

At the meeting of the Academy of Medicine held on July 4th Dr. Poupinel, mayor of the commune of Saint-Arnoult, and Dr. Camescasse, a local medical man, contributed a most interesting paper showing how the public health law is administered in some districts. An epidemic of diphtheria broke out and Roux's serum was used with such success that there were no fatal cases. Of the total number of cases in which it was used 29 were undoubtedly diphtheria, nine were doubtful, and in 89 the serum was used as a prophylactic. The municipality refused to help in defraying the expenses of the treatment and the sub-prefect who in a preliminary note recommended the use of the serum, in a second note refused to procure it saying that the method was a private therapeutic method and not a means of protecting the public health. The mayor, being a medical man, was naturally annoyed and brought the contents of the note before the Academy of Medicine.

A Case of Relapse in Pneumonia.

At the meeting of the Hospitals Medical Society held on July 7th M. Antony reported the following case. The patient was a *garde républicain*, aged 29 years, who developed an ordinary pneumonia of the base of the right lung. Consolidation gradually extended upwards and forwards and the crisis arrived on the eighth day, being accompanied with polyuria. Eight days later the base of the left lung became affected and four days after this the second crisis took place also accompanied with polyuria. The patient completely recovered by the twenty-first day after invasion.

White Swelling of the Knee successfully treated without Resection.

At the meeting of the Surgical Society held on July 5th M. Walther showed a young girl who had been under his care for 18 months suffering from white swelling of the knee with almost complete backward displacement of the tibia. The patient was treated with simple extension, continued for some time together with the application of the *méthode scléreogène*. The result was eminently satisfactory, the tuberculous process being apparently quite extinguished and the patient was able to walk well with a stiff joint, the limb being quite straight. M. Lucas-Championnière, M. Arrou, and M. Routier, however, gave it as their opinion that although the result obtained by M. Walther was so good, it would have been better and quicker to have resected the knee-joint.

Sympathetic Ophthalmia.

At a recent meeting of the Ophthalmological Society M. Chevallereau reported the case of a child, aged 11 years, who six weeks after receiving a severe injury to the left eye presented marked symptoms of sympathetic ophthalmia of the right eye. The injured eye was removed and by the second day after the operation the right eye cleared up. The mercurial inunctions which had been begun before the enucleation were continued and in a very short time the eye recovered all the visual acuity which it had possessed previously to the onset of the sympathetic ophthalmia. M. Chevallereau drew attention to the two most noticeable points, first, the successive appearance at a very short interval of the two most common forms of sympathetic ophthalmia—namely, irido-choroiditis and optic neuritis, and, secondly, the complete and rapid disappearance of the sympathetic symptoms after enucleation of the injured eye.

Rabies following a Bite from a Mouse.

At the meeting of the Biological Society held on July 1st M. Remlinger of Constantinople read a paper concerning the case of a young girl who was bitten on the finger by a mouse and who died six months later from acute rabies. As the patient had never been bitten or licked by a rabid dog or cat or by one even suspected of rabies, it seemed only rational to attribute the rabies in her case to the bite of the mouse.

The long incubation period (six months) and the long duration of the attack (nine days) pointed to the inoculation of a very small quantity of virus and not to its attenuation by passage through the mouse. Both rats and mice are very susceptible of the poison of rabies and possibly bites from them may explain the so-called spontaneous cases of rabies which have been observed both in men and in animals.

The Heredity of the Stigmata of Degeneration in Reigning Families.

M. Galippe has been carrying out a research into this subject and he chose reigning families because their archives are complete for several centuries and not because they have an exclusive privilege in degeneration. Among them he fixed upon the house of Hapsburg because this family possesses one stigma which is easily observed and which, moreover, is transmitted not merely in the Hapsburg line proper but in families allied with it. The stigma in question is prognathism of the lower jaw, together with certain secondary anomalies which accompany it. By the aid of illustrated documents which he criticises M. Galippe has been able to trace the hereditary transmission of this stigma of degeneration from the fifteenth century up to our own times. He notes that the female side is chiefly concerned in this transmission and gives historical examples, such as that of the King of Rome who was a Hapsburg, both from the physical and the moral point of view. Founding his contention upon the heredity of certain characteristics of physiognomy M. Galippe proves the pedigree of Don John of Austria, natural son of the Emperor Charles V., as well as the legitimacy of the claims of the pseudo-Louis XVII., *alias* Naundorff. M. Galippe communicated his work to the Academy of Medicine on July 4th.

The Course of Medical Study.

The Minister of Public Instruction has just sent out to all University Rectors a circular relating to medical studies. After referring to the fact that medical studies have been for some years past the target for lively criticisms the minister points out that the technical studies of the future medical practitioner are on an assured basis but that their professional training does not seem sufficiently practical. It is of little use simply to acquire a mass of information; those about to enter the medical profession should have a taste for observation of such a kind that they will be fitted to act with decision and prudence in the many very responsible circumstances in which they may find themselves. The minister makes a special recommendation that the chief place should be given to the practice of medicine during the stage of hospital work. He suggests that the rectors should have a consultation on the subject with the Faculty of Medicine attached to their respective jurisdictions (*ressorts*). Finally, he asks whether the present system of examinations shall be retained, whether the examinations at the end of each year shall be re-established, or whether they shall be grouped at the end of the third or of the fourth year. The minister requests that answers to these questions may be sent to him before Jan. 1st, 1906.

Painful Mastitis: Operation by the Æsthetic Method of Morestin.

At the meeting of the Society of Anatomy held on July 7th M. Péraire showed a mammary tumour, a pure fibroma. He had removed it on account of the pain to which it gave rise, this pain being more acute at each menstrual period. The patient's age was 23 years and she had noticed the growth for about a year. It had no connexion with lactation nor was there any history of injury. The growth was apparently continuous with the gland substance. M. Péraire employed the axillary incision of Morestin by which the shape of the breast was unaffected.

July 17th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The German Practitioners' Association.

THE annual meeting of the German Practitioners' Association (*Deutscher Aerztetag*) was held on June 26th and 27th at Strasburg in Alsace, Professor Loebker of Bochum being in the chair. The principal subject of discussion consisted of questions connected with the medical academies, to which I have referred on a former occasion. These academies, which are attached to the hospitals of the larger towns, will supply practitioners with opportunities for post-graduate study and will facilitate the training of specialists. Students may also be admitted to the academies for their "practical year," in accordance with the new regulations relating to medical examinations. Hitherto only one academy has been opened—namely, at Cologne, but it is the intention of the Government to establish similar institutions in other towns also, Düsseldorf and perhaps Frankfort being the next places chosen for that purpose. The creation of the academies has from the beginning met with the disapproval of the medical profession for several reasons. First, because the whole question was settled without opportunities for discussing it being given to the official representatives of the profession; and, secondly, because the aims and the work of the academies were undisclosed except for vague rumours which found their way into the newspapers. A further difficulty was that not only the medical profession but also certain political combinations looked askance at the projected institutions, fearing that the Government might then have an opportunity to interfere with the administration of the municipal hospitals and the appointment of the medical officers and might in that way encroach on the powers up to that time exercised exclusively by the local municipal authorities. The apprehensions expressed previously to the establishment of the academies proved to be well founded in the case of the academy at Cologne. Apart from the above-mentioned objections, the medical profession of Cologne felt it to be a special grievance that out-patient departments on a large scale were attached to the academies and took away patients from the local practitioners. Moreover, the fact that several assistantships were reserved for members of the Army Medical Corps was much opposed, the same being the case with certain professors of the neighbouring University of Bonn who were appointed lecturers to the academy and went regularly several times a week to Cologne to deliver lectures and to perform operations. The medical societies of Rhenish Prussia and Westphalia therefore passed resolutions against the academies on several occasions and it was by their representatives that the matter was brought before the meeting of the Practitioners' Association. In order to mitigate this hostility representatives of the Government declared a few days ago at a meeting of the Association for Post-Graduate Study that no other medical academies would be established without the approval of the medical profession and that no further steps would be taken until experience had shown the nature of the results obtained in the academy at Cologne. Notwithstanding these declarations the matter was fully discussed by the Practitioners' Association and the objections alleged against the academy at Cologne were explained by the local representatives. The meeting eventually, by a large majority, adopted a proposition moved by Dr. Mugdan, a member of the German Parliament, to the effect that the academies were not well adapted for the purposes of post-graduate study which had hitherto been undertaken by the spontaneous initiative of the medical profession; that they would prejudice the interests of the medical profession; and that for those reasons the meeting disapproved of any further creation of such academies. The other subjects discussed before the meeting were of minor interest and concerned unqualified practice, sick clubs, and the support of invalid members of the profession and their families.

Professor Koch in South Africa.

A letter written by Professor Koch to a friend and published in the German newspapers gives some particulars of the work on which he is now engaged. He is at present in South Africa and writes from Fringa in Ubebe that he has succeeded in discovering the origin of the tsetse-fly disease from which many cattle die on their way from Ubebe to the coast. He has not only found trypanosomes within the tsetse-fly but has also ascertained that these parasites undergo therein a peculiar development. Professor Koch describes the climate of Ubebe as very healthy and fit for European colonisation. The air is bracing and cool, somewhat suggesting that of the Alps and Norway.

The Effects of Smoke on Firemen.

Some interesting facts are stated in the recently published report of the chief medical officer of the Berlin fire brigade. A great number of the men suffered from the effects of the inhalation of smoke, an affection which is especially prejudicial owing to its long duration, its sequelæ including

neurasthenia and cardiac neurosis. Of the men discharged with a retiring allowance one-third suffered from symptoms due to this cause. In addition to the ordinary effects of smoke, fires in chemical works were especially dangerous to the health of the men. In several instances fire broke out in celluloid factories where fumes containing prussic acid developed, leading to syncope and myocarditis among the men. In 1897, when the extensive premises known as the Schering Chemical Works were consumed by fire, serious effects were produced on a large number of men, including the chief officer who recently died from myocarditis.

July 17th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Is Enough being Done for the Sufferings Caused by the Epidemics of Plague in India?

MANY sections of the Anglo-Indian as well as the home press have drawn attention to the apparent want of policy in regard to the plague in India and to the small amount of relief in any form which is offered to the people. The Secretary of State simply reflects the views of the Government of India when he says: "It is not the case that in combating plague the Government of India is without a policy" but it is the Government of India which is blamed for not doing more. It is said that "every practicable measure that gives prospects of success and that is not utterly opposed to the habits and the sentiments of the people has been, and will continue to be, tried." The facts of the case, however, are that at the present moment all the provincial governments in India are carrying out a policy of *laissez-faire*. There are no compulsory removal to hospital, no segregation of "contacts," little or no restriction of movement of patients from one place to another, only in a few out-of-the way districts any attempt at evacuation of infected premises, and no inducements offered to take advantage of the benefits of inoculation. In a few towns the local authorities have done what they could to effect a destruction of rats (but this has never been a Government measure) and hospital treatment has been given to those who seek it. The only measure which can be said to be in force is disinfection and this is carried out in different parts in very various ways and it is very doubtful whether it is of any value at all. The Plague Research Expedition is said to be supplemental to the medical organisation already existing in India and is in no way to supersede it. The Government might well be asked, What research concerning plague is being done in India? The manufacture of the prophylactic cannot be called research and the medical profession would like to know where experiments are being made and who are doing them. Nothing original has been published for years in India and all our latest information concerning plague comes from abroad. The Government in its communications quotes Hong-Kong, Natal, Sydney, and other places where a few cases of plague have been sufficient to base valuable experiments upon and yet India, with 1,000,000 deaths in the year, has contributed nothing. The real truth is that the Government has not chosen the right men or enough men for research work and even with regard to treatment it has been left to individual practioners to purchase serum from Paris. All plague measures have lapsed.

A Parsi General Hospital for Bombay.

For some years past a general hospital for Parsis in Bombay has been talked about and now the scheme has been revived. It is proposed to begin in a modest way by renting a building and converting it and as funds come in to extend or to rebuild it. It is estimated that three lakhs of rupees (£20,000) will be necessary for a commencement and that four lakhs of rupees will be required for an endowment. For this 40 patients could be treated. To equip a hospital for 100 patients would cost eight and a half lakhs of rupees. I have had from time to time to speak favourably of the Parsi Lying-in Hospital in Bombay and I feel sure with the medical reputation of the Parsi physicians and surgeons that a general hospital would prove a success.

The Small-pox Hospital Scandal in Bombay.

The Bombay small-pox hospital scandal has brought an official inquiry and an order for reform. The physician in charge attempted to traverse every item of complaint and practically would not admit that anything was wrong. The acting surgeon-general, however, admits a large number of makeshifts and want of comfort for the sick and the Government has resolved that although the complaints were exaggerated there were defects which might have been prevented by closer supervision and has ordered that the deficiencies in equipment should be immediately supplied. The outbreak of small-pox doubtless proved a great strain on the system of hospital administration and perhaps funds were served out niggardly but the Government resolution and the statement of the officiating surgeon-general that "much could have been done to have made the place neater and more orderly" show that the management of the institution was at fault. There is one point I must allude to with regret. The Government, in publishing the correspondence, has thought fit to omit No. 6 paragraph of the officiating surgeon-general's conclusions. The obvious inference is that it contained an important justification of the complaints which have been made or that it reflected upon the conduct of some particular individual.

June 30th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Bubonic Plague.

THE plague continues in New South Wales, though Dr. J. Ashburton Thompson, President of the Board of Health, is of opinion that the outbreak is nearing its end because no plague-infected rats have been caught in Sydney since May 4th. 53 cases have occurred in New South Wales since March 16th, distributed as follows: Sydney, 16; Newcastle, 12; Clarence River, 12; Lismore, nine; and Ballina, four. The last reported case was at Newcastle. In Queensland several cases have occurred in or near Brisbane and at Ipswich. The New South Wales Government has imposed stringent restrictions on fodder from Queensland. A public meeting was held in Brisbane to object to these restrictions and it urged the Government of Queensland to take action. In consequence of representations on the subject from the Premier of Queensland the Premier of New South Wales agreed that the President of the New South Wales Board of Health should visit Brisbane and discuss the matter with the Queensland authorities.

Dengue in Queensland.

The epidemic of dengue in Queensland is diminishing. The report of the Government statistician stated that there were 63 more deaths in Brisbane last month than in the same month last year and that the epidemic of dengue was largely responsible for the increase, having directly caused 39 and hastened the end of a number of persons suffering from chronic affections.

Cerebro-spinal Meningitis.

Two sporadic cases of cerebro-spinal meningitis have been reported in Victoria, one in Bendigo and one in Castlemaine. The latter proved on investigation to be an ordinary case of traumatic meningitis.

Vital Statistics of New South Wales.

The Government statistician has furnished a preliminary statement of the vital statistics of New South Wales for the year 1904. The increase of population during the year was 29,869, of which 23,307 was due to excess of births over deaths. The deaths during the year numbered 15,360, equivalent to a rate of 10·62 per 1000 of the population, which is 1·07 below the mean rate for the last ten years, and is also the lowest rate on record, this pleasing state of affairs being almost entirely due to the decrease in the number of deaths from diseases to which young children are particularly liable. The number of children under one year of age who died was 3187, equal to 82 per 1000 births. To this the metropolis contributed 1300, or 98 per 1000 births, and the remainder of the State 1887, or 74 per 1000 births. This is the lowest rate of the last ten years and is nearly 25 per cent. below the mean. The effects of illegitimacy on infantile mortality will be seen when it is explained that of children under one year the death-rate for illegitimates is nearly three times larger than that for legitimates.

Hospital Affairs.

The twenty-fifth annual meeting of the supporters of the Sydney Hospital for Children, now called the Royal Alexandra Hospital, was held on May 22nd. The report stated

that during the year 619 cases were treated at the institution, with a mortality of 8·6 per cent. In the out-patient department at Valentine-street the work was stated to be increasing rapidly and the time is not far distant when another storey will have to be added to the present building. In this department there were 27,481 cases treated, as compared with 15,638 the previous year. In the diphtheria cottage 154 patients were treated. It is expected that the new building will be completed by the middle of next year.—The committee of the Melbourne Hospital has decided to reopen a ward, once used as a lock ward, for female surgical cases. It was stated that the cost per bed of these additional beds would be only £35, as against £70, the average cost per bed in the institution.—The authorities of the infectious diseases hospital at Melbourne have decided to erect temporary tents to accommodate cases of measles, an epidemic of this disease prevailing just now in Melbourne.

Patent Medicines.

A meeting was recently held in Sydney, convened by the Manufacturing Chemists' and Proprietors' Association, to protest against the revised regulations issued by the New Zealand Government with regard to patent and proprietary medicines. The chairman reviewed the New Zealand legislation affecting manufacturing chemists. An Act of Parliament had been passed that would have a far-reaching effect. Patent and proprietary medicines were dealt with in the Health Act and it contained two clauses to which strong exception was taken. The first was that the formula had to be printed on the bottle of all patent and proprietary medicines; the other was that if the contents contained an infinitesimal portion of poison it had to be labeled accordingly. In consequence of strong protests the change as to the formula had been modified, and instead of being printed on the bottle it was to be lodged with the health department. The manufacturers did not intend to conform to this modified regulation. The formulæ represented the goodwill and firms who had spent thousands of pounds in building up a trade were not going to give up their goodwill in such a light manner. They would withdraw their medicines from New Zealand and their agents in New South Wales who did a large trade would suffer. The following motion was carried:—

That, as the modified regulations concerning patent medicines in New Zealand will tend to lessen the amount of business done by residents in New South Wales with New Zealand, this meeting protests against the same coming into force.

Assurance on Infantile Lives.

At the annual meeting of the Australian Mutual Provident Society the president stated that the society was hampered in its operations by the fact that assurance on infantile lives was at present illegal within the Commonwealth, although it was the only country in which that disability existed.

The Burial System in New South Wales.

The city coroner for Sydney recently ordered the exhumation of the body of a child and said his "object in holding an inquest in the case was to disclose a serious defect in the burial system of the State." A document, he continued, purporting to be a statement by a midwife that a child has been stillborn, is handed to an undertaker. He buries, as a matter of course, without prior or subsequent registration, and there the matter ends. The law does not require him to verify the document in any particular, and as a matter of practice he does not do so, and for all he knows the statements therein may be absolutely false and have emanated from the most disreputable person in the community. In the case investigated a premature child died soon after birth, the mother gave a certificate that it was stillborn, on which the body was buried. The necropsy showed that the child died from failure of respiration which had not been sufficiently established. A verdict of "Death from natural causes" was returned.

The Value of Alcohol.

Dr. T. H. Fiaschi of Sydney gave evidence before the Tariff Commission recently in the dual capacity of surgeon and *vigneron*. He stated that alcohol was a valuable stimulant and that good Australian wines helped digestion. He would be sorry as a medical man to have to dispense with the use of spirits. The brandy used in disease should be pure, from grape juice. He never prescribed whisky.

A Medical Man charged with Drunkenness.

At the Castlemaine police court recently a middle-aged medical man was charged with being drunk and disorderly. He was discharged on promising the bench to look after himself in future. He explained that he had been kept without sleep and rest from overwork and worry and drink was not altogether responsible for his condition.

June 5th.

Obituary.

MAJOR-GENERAL PETRONIO COSTETTI.

IT is not often that romance and hard work are so intimately blended as in the long professional career of this eminent army surgeon. Born in Bologna in 1819 he had, with his family, to migrate to Florence in 1831—the year in which many of the Bolognesi, the Costettis included, were compromised in the abortive revolution. At Florence he began his medical studies and took his degree, *summâ cum laude*, at Pisa. In 1848—another year of revolution—he served in the *guarde mobile* of Tuscany under the Marchese Niccolino Antinori and saw some sharp fighting at Montanara. We next find him an army surgeon in the Tuscan forces, espousing the Liberal cause and attending the meetings of the party in the Florentine Casa Bartolommei. It was he who, on the historical 25th of April, gave clandestine shelter in his quarters in the fortress Belvedere to the Marchese Ferdinando Bartolommei who wanted to know how far he could count upon the coöperation of the officers in the pacific revolution, two days afterwards successfully consummated. On the eventful morning the Tuscan archduke proceeded from the Pitti Palace to the *fortezza*, thence to give orders to bombard the city, but only to receive from the officers the reply that while ready to protect the lives of their princes, they could not serve the anti-national cause. While the *pourparlers* were in progress young Costetti ordered some green curtains to be taken down from the windows of the hospital in the *fortezza* and adding to them the Tuscan colours, red and white, he hoisted the improvised "tricolor" on the terrace of the *fortezza* before the eyes of the grand duchess who, in needless panic, had taken refuge in that stronghold. It was that banner which announced to the people, assembled not many yards off in the Piazza dell' Indipendenza, that the Tuscan revolution, peaceful and bloodless, was a *fait accompli*.

Dr. Costetti, continuing his career as an army surgeon, with the rank of captain, took part in the campaign against Austria in 1859. Promoted again for distinguished services in 1862 he rose to be major-general and was appointed director-in-chief of the great military hospitals of the now united kingdom. Of late years advancing age had constrained him to give up professional work but he still placed his powers and energies at the disposal of his fellow citizens of Bologna, where he had resumed residence, and as communal councillor and assessor on the board of hygiene he wrought many salutary innovations on the backward equipment of the city, the improved drainage being one of his many contributions to its sanitary provisions. Till within two years ago he was the life and soul of the Spedale della Vita for Bolognese youth and maintained to the last his interest, and where possible his coöperation, in rehabilitating the health conditions of the "mother city of universities." At 86, a youthful spirit, reflected in a fresh, even florid, complexion and a prompt, not to say brisk, address, made him as popular as he was familiar among his compatriots who all showed something of personal loss when on the evening of June 30th he passed peacefully away.

DANIEL MURPHY, M.B., B.Ch., B.A.O., R.U.I.

IT was with sincere regret that members of the medical profession in Cork learned that Dr. Daniel Murphy died on July 6th at one of the seaside resorts in the neighbourhood of the city. He received his medical education at the Cork Queen's College and took his degrees at the Royal University in the year 1893. Soon afterwards he was appointed resident physician to the Cork Fever Hospital where he discharged his duties to the entire satisfaction of the committee and patients. Whilst occupying that position he unfortunately suffered from an attack of appendicitis which necessitated operation but apparently he made a good recovery. Afterwards he was

appointed house surgeon at the Cork North Infirmary but held the position only a short time, as he was elected to the more important post of physician to the Cork City Dispensary. About this time his health commenced to fail and his medical advisers recommended him to go to a sanatorium at Nordrach. Hopes were entertained at first but pulmonary tuberculosis steadily did its work. Feeling that his end was at hand he hurried home and arrived only about a week before death put an end to his sufferings. In the earlier days of "the Battle of the Clubs" Dr. Murphy was a very regular attendant at the meetings of the profession. Though a young man he held and expressed very decided views, but always with the greatest courtesy, and he was rightly regarded by his colleagues as a most loyal and zealous champion of the interests of the profession. The time of the arrival of his funeral in the city was quite uncertain but nevertheless a large number of his medical brethren assembled to pay a last tribute to one who during his all too short life did much to maintain the honour and dignity of the profession and whose amiable and genial disposition had endeared him to all who had the privilege of knowing him.

Medical News.

UNIVERSITY OF LONDON.—At examinations for the D.Sc. degree in the Faculty of Science the following candidates were successful :—

Chemistry.—Internal student: Ida Smedley, Central Technical College. External student: William Horace Sodeau, Davy Faraday Research Laboratory and private study.
Botany.—External student: David Ellis, University of Marburg and Lister Institute of Preventive Medicine.
Geology.—External student: Felix Arthur Clair Oswald, B.A., private study.

UNIVERSITY OF EDINBURGH.—The following candidates have passed the examination in clinical medicine for the degree of Doctor of Medicine :—

W. Anderson, H. E. Arbuckle, Mary S. Arbuckle, C. M. Begg, R. A. Bellhos, A. J. Brock, Alfred Brown, R. A. Chambers, O. H. Chapman, K. J. S. Clark, H. L. Cumming, Henry Curwen, J. M. Darling, R. S. Davidson, James Davidson, G. A. Davies, J. L. Dick, J. M. Dupont, A. N. Fell, Robert Gibson, Sidney Gilford, Archibald Gillespie, J. M. Graham, W. W. Greer, A. A. Hall, William Hamilton, P. W. Hampton, P. A. Harry, C. H. Houghton, A. M. Hutchison, R. W. Johnstone, I. C. Keir, G. F. S. Landon, A. J. Lewis, James Lochhead, R. J. M'Clelland, J. C. M'Conaghy, J. P. M'Gowan, William M'Lachlan, R. M. White Manwaring, C. A. Mayne, G. R. Mill, L. S. Milne, C. R. P. Mitchell, R. C. Monnington, F. W. More, Ernest Muir, W. H. Nutt, A. H. Pirie, J. J. H. Pirie, H. S. Reid, C. M. Richardson, H. M. Roberts, J. K. A. Robertson, S. M. Ross, D. J. Scott, S. R. Sibbald, A. B. Slater, E. W. Smyth, R. A. L. van Someren, F. S. Stanwell, D. A. Stewart, H. A. Stewart, W. Ward Smith, D. P. D. Wilkie, and F. A. Willie.

UNIVERSITY OF GLASGOW.—The following candidates have passed the fourth (final) professional examination :—

M.B., Ch.B.—Andrew Blair Aitken, §George Allison Allan, William Smith Allan, §Andrew Allison, Andrew Woodroffe Anderson, John Bain, M.A.; Annie Agnes Baird, M.A.; §James Henderson Baird, B.A.; Hugh Barr, Andrew Farm Bell, Ethel Lily Chapman, *Jeannie Thomson Clark, Robert Wilson Dale, M.A.; David William Davidson, Robert Scott Dewar, M.A.; Hugh M'Millan Donaldson, Allan Campbell Douglas, §John Shaw Dunn, M.A.; Eric John Dyke, Hamilton William Dyke, Alexander Burns Ferguson, Mary Theresa Gallagher, William Gilchrist, William Harold Gillatt, William Macmillan Gilmour, Joseph Glaister, Louis Leisler Greig, William Grier, Alexander Roberstson Forrest Hay, James Waugh Hay, Ralph Vincent Howell, John Moonette Huey, James Hunter, Harry Stewart Hutchison, B.Sc.; §Arthur Innes, §William Boyd Jack, Arnold Ernest Jones, Robert Dallas Kennedy, William Love Kirkwood, Alexander Leggat, George Hugh Logan, William Jamieson Logie, John Bertram M'Cabe, Walter George Macdonald, M.A.; Duncan M'Ewan, ‡Hugh Allan Macewen, Robert Maxwell Macfarlane, James Denniston Macfie, Milne M'Intyre, John M'Millan, *Peter Maguire, William Blair Morton Martin, *Robert May, Henry Joseph Milligan, Macdonald Munro, Frank Anderson Murray, John Dunn Nisbet, David Penman, Henry Sherwood Ranken, §Cunison Deans Rankin, Thomas Thomson Rankin, John Reid, James Mill Renton, William Rolland, Alexander Cappie Russell, Frank Donald Scott, Jane Reid Shaw, Lily Smellie, James Alexander Somerville, Arthur Anderson Stewart, Daniel Stewart, §John Logan Stewart, M.A.; William Alexander Stuart, Joseph Roderick Sutherland, Elizabeth Taylor Talbert, §John Taylor, William Lind Walker, M.A.; Robert Wallace, Alexander MacMillan Watson, Archibald Crombie West, and Archibald Simpson Wilson.

Passed with distinction: *In surgery and clinical surgery and practice of medicine and clinical medicine; † in surgery and clinical surgery and midwifery; ‡ in surgery and clinical surgery; § in medicine and clinical medicine.

UNIVERSITY OF ABERDEEN.—The following candidates have been successful in the examinations indicated :—

First Professional Examination.—William Allan, William Badenoch, David M. Baillie, John A. Beattie, William Chapman, J. G. Christie, Robert G. Davidson, Arthur H. Duckett, William Duguid, James Elder, G. C. Grant, John Inkster, Harold G. R. Jamieson, John Johnston, John A. Macarthur Clement R. MacLeod, Norman Macphail, Frank S. Maxwell, G. S. Melvin, Robert J. Merson, Herbert S. Milne, John Mitchell, A. D. Reid, Finlay G. M. Ross, Arthur C. L. Smith, Herbert A. Smith, W. L. Stephen, Francis W. Stuart, John E. Thompson, Charles C. Twort, John T. Watt, Alfred J. Williamson, and Alexander Wilson.
Portion of the First Professional Examination.—Hugh G. Bruce, G. P. Burr, Joseph P. Cameron, Robert M. Chance, James Conner, Ernest W. H. Cruickshank, Henry Duguid, Robert W. Eddie, James R. G. Garbutt, Thomas C. Halley, Robert Kellas, Charles A. Macdonald, Allan J. Macleod, John M'Pherson, A. Mitchell, Robert W. S. Murray, Donald O. Riddel, John Ritchie, Arthur C. M. Savege, G. E. Scroggie, Henry E. Shortt, Colin F. Simpson, Ronald Sinclair, William Smith, and David J. S. Stephen.
Second Professional Examination.—Thomas Clapperton, James A. Davidson, Thomas Donaldson, James Leask, George H. C. Lumsden, William J. Mackintosh, John F. MacLeod, James M. M'Queen, John P. Mitchell, A. E. C. Myers, Patrick Nicol, Alfred J. Pirie, David E. Rae, James Robertson, Robert W. A. Salmond, Arthur Shepherd, Alexander Stewart, John P. Stuart, James E. G. Thomson, Ernest Walker, and William A. Watson.
First Portion of the Second Professional Examination.—Robert W. Chalmers, Stephen Goodbrand, James A. Hendry, William Mearns, James A. Milne, Douglas Porter, George E. Shand, and Walter R. Stephen.
Third Professional Examination.—Francis J. Browne, Theodore Chalmers, George Cooper, James Donaldson, Herbert W. Glashan, Theodore G. Gray, R. M. Gunn, George F. J. Hendry, Adam Johnston, James Laing, James M. MacDonald, John G. M'Gregor, Stanley W. Munro, Alexander Robertson, George E. Ross, Henry Smit, John R. Stewart, and Arthur G. Troup.
Final Professional Examination.—James M. Adams, William Campbell, Alexander M. Donaldson, Robert R. Duncan, Richard Eager, William M. Ferguson, George J. Forgie, Reginald A. Forster, Charles R. Gerrard, George Hall, Alexander W. Laing, James M'Intosh, James Mackenzie, Kenneth Mackinnon, George Milne, John A. Milne, Harry E. Neilson, Paul B. Roth, Robert F. Russell, James Silver, Charles M. Smith, John H. Stephen, Isaac F. B. de Villiers, Frederick H. Welsh, Cristina Wilson, and Douglas A. Wood.

TRINITY COLLEGE, DUBLIN.—At the medical scholarship examination held in Trinity term the following awards were made :—

Anatomy and Institutes of Medicine.—William Pearson, Trinity College Scholarship, and Robert E. Wright, Stewart Scholarship.
Physics, Chemistry, Botany, and Zoology.—Richard P. Hadden, Trinity College Scholarship, and Hugh R. M. Ferguson, Stewart Scholarship.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—At a meeting of the President and Fellows held on July 14th Sir Richard Douglas Powell, Bart., K.C.V.O., M.D., President of the Royal College of Physicians of London, was unanimously elected an Honorary Fellow of the College. At the same meeting Dr. David J. O'Connor was admitted to the Membership of the College and the licence to practice in midwifery was granted to Dr. Stephen Garvin.

INFANTILE MORTALITY.—In order to lessen the heavy infantile mortality which inevitably occurs every summer that is at all hot, the committee of the Hospital for Sick Children, Great Ormond-street, has been accustomed to set aside an extra number of cots in each ward for the reception of children under the age of two years. This year, in addition to the usual number provided in this manner, the committee has decided to open an entire ward for children of an age liable to be attacked by a prevailing summer epidemic. The committee has just received a timely donation of 100 guineas from the Worshipful Company of Mercers.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors was held on July 12th, Mr. Christopher Heath, the President, being in the chair. 12 directors were present. One death and one resignation had occurred among the members since the last court. Three new members were elected. The death of a widow was reported who had been an annuitant of the society since 1886 and had received in grants the sum of £1063 5s.; her husband had paid £52 10s. in subscriptions. An application for relief had been received from a widow of a deceased member and a grant at the rate of £50 per annum was voted. 53 widows and 16 orphans are now in receipt of relief, the total sum for the half-yearly grants being £1324. The secretary reported that during the past three months 15 letters had been received from widows of medical men soliciting grants and relief; they had to be refused in every case, owing to the fact that their late husbands had not been

members of the society. The annual election of the secretary took place and Mr. Edward J. Blackett was appointed to the post.

BRITISH ELECTRO-THERAPEUTIC SOCIETY.—A provincial meeting of this society will be held at Leicester in the library of the Young Men's Christian Association building on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th, at 10.30 A.M. on each day. The programme, which will be found in full in our advertisement columns, includes a discussion on the Present Position of the Treatment of Carcinoma and Sarcoma by Electrical Methods, which will be opened by Dr. H. Lewis Jones; a paper on Neurasthenia by the President, Dr. Donald Baynes; a paper, illustrated with lantern slides, on the X Rays in the Diagnosis of Pulmonary Disease, by Dr. A. Stanley Green; and a paper on Stereoscopic Radiography, illustrated with lantern slides, by Mr. A. D. Reid. Dr. Lewis Jones will give a further report on the Milliampèremeter as a Measure of X Ray Production. All medical men are invited to attend the meetings and to take part in the discussions and those wishing to read papers or to bring forward communications should address themselves to the honorary secretary, Dr. E. Reginald Morton, 22, Queen Anne-street, Cavendish-square, London, W.

ST. BARTHOLOMEW'S HOSPITAL.—The following is the list of scholarships awarded at the above-mentioned hospital:—The Jeaffreson entrance exhibition in arts, K. C. Bomford. The junior entrance scholarships in science, T. S. Lukis and G. R. Lynn (the preliminary scientific exhibition). The senior entrance scholarships in science, E. P. Cumberbatch and G. Graham. The Shuter entrance scholarship in the subjects of the Cambridge second M.B. examination, R. B. Seymour Sewell. *After entrance.*—The junior scholarships in chemistry, physics, and histology, T. L. Bomford and H. H. King. The junior scholarships in anatomy and biology, A. P. Fry and R. R. Smith. The treasurer's prize in practical anatomy, T. S. Lukis; certificates of proficiency to G. R. Lynn, R. R. Smith, A. P. Fry, and A. L. Weakley. The Foster prize in senior practical anatomy, T. L. Bomford; certificates of proficiency to F. C. Serle, R. B. Price, and A. L. Chandler. The Harvey prize in practical physiology (in memory of Dr. William Harvey, physician to the hospital, the discoverer of the circulation of the blood), A. E. Gow; certificate of proficiency to A. J. S. Fuller. The senior scholarships in anatomy, physiology, and chemistry, E. M. Woodman. The Wix prize, W. B. Grandage. The Hichens prize, F. W. W. Griffin. The Bentley prize for reports of cases in the surgical wards, P. L. Guiseppi; *prox. accessit.*, C. A. Stidstone. The Sir George Burrows prize in pathology, J. G. Gibb. The Skynner prize in regional and morbid anatomy, including their reference to scarlet fever and rheumatic fever, J. G. Gibb. The Matthew Duncan prizes, G. C. E. Simpson (medal and first prize) and P. L. Guiseppi and E. H. Shaw (equal, second prize). The Kirkes scholarship and gold medal in clinical medicine, J. G. Watkins and J. K. Willis (equal). The Willett medal for operative surgery, H. W. Wilson. The Walsham prize for surgical pathology, E. H. Shaw. The Brackenbury scholarship in surgery, H. W. Wilson. The Brackenbury scholarship in medicine, C. W. Hutt. The Lawrence scholarships and gold medal in medicine, founded by the children of the late Sir William Lawrence, surgeon to the Hospital, and father of the late treasurer of the hospital, E. H. Shaw.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Withdrawal of the Lunacy Bill.

THE Government has withdrawn the Lunacy Bill. It was "blocked" by Sir JOHN BATTY TUKE, Dr. HUTCHINSON, and Sir WALTER FOSTER.

The Medical Act (1886) Amendment Bill.

This Bill, which was explained in THE LANCET of July 15th, was read a third time in the House of Commons on Tuesday and was sent to the House of Lords.

HOUSE OF COMMONS.

FRIDAY, JULY 14TH.

The Royal Army Medical Corps (Volunteers).

Sir WALTER FOSTER asked the Secretary of State for War whether, in view of the fact that the Army Council had refused honours in connexion with the South African war to the Royal Army Medical Corps (Volunteers), and that war honours had been granted to numerous volunteer corps which sent contingents to the war, he would state what was the average strength of the contingents sent; and whether, in view of the fact that the eight divisions of Royal Army Medical Corps (Volunteers) in various parts of the country contributed to medical units during the war some 650 officers and men, amounting to two-fifths of their strength, the Army Council would reconsider its decision.—Mr. ARNOLD-FORSTER replied: It is not the custom to award honours to any but corps of cavalry and infantry, as it is accepted as a fact that all the other branches of the army have contributed in some measure to every honour which is recorded on colour or accoutrement. Accordingly, no honours for South Africa were awarded to artillery, engineer, army service, or medical corps, regular or auxiliary.

MONDAY, JULY 17TH.

Fees payable to Public Vaccinators.

Mr. RUNCIMAN asked the President of the Local Government Board whether he proposed to issue an order giving effect to the recommendations of the departmental committee which sat to consider the fees payable to public vaccinators; and, if so, when the order was to be issued.—Mr. GERALD BALFOUR replied: The Local Government Board has not at present arrived at a decision upon the recommendations of the committee. Effect could only be partially given to them by means of an order.

Guardians and Midwifery Orders.

Sir WALTER FOSTER asked the President of the Local Government Board whether he was aware that in some cases difficulty had arisen from poor women being unable to obtain assistance in their confinements in consequence of unregistered midwives having been warned not to attend such cases and no others being available; and whether, in these circumstances, he would issue an order pointing out to the boards of guardians the duty of the relieving officers to grant midwifery orders to women destitute of the means of procuring medical attendance.—Mr. GERALD BALFOUR answered: No case of the kind referred to has been brought to my notice. If the honourable Member is aware of any such cases and will furnish me with particulars of them I will cause inquiry to be made and will consider what action should be taken.

The Medical and Dental Examination of Volunteers.

Sir HOWARD VINCENT asked the Secretary of State for War whether, having regard to the amount of time that would be required for the medical and dental examination of the volunteer force for active service demanded by his recent circular, and to the paucity of medical officers and the calls upon their professional time, he would authorise a fee of 5*s.* to be paid for such examination or the equivalent honorarium for the examination of a recruit for the Army by a civil practitioner; and further, whether the volunteers themselves would be reimbursed their expenses in travelling to and from the medical and dental centre.—Mr. ARNOLD-FORSTER said: There is no reason to suppose that the services will appreciably add to the expenditure of volunteer corps and it is not proposed to grant any special allowance. The matter, however, is receiving consideration.

TUESDAY, JULY 18TH.

The Army and Navy Vaccine Institute.

Mr. WEIR asked the Secretary of State for War what quantity of glycerinated calf lymph was produced annually in the Army Vaccine Institute, the number of calves operated on, and whether they were sold for human food or utilised in the military kitchens.—Mr. ARNOLD-FORSTER answered: The annual average amount of glycerinated calf lymph produced at the Army and Navy Vaccine Institute is sufficient to vaccinate 125,280 persons and the average annual number of calves operated on is 30. The calves are slaughtered and post-mortem examinations are made in each case before the carcasses are sold to the public. They are not utilised in military kitchens.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ANDERSON, J. WILLIAM, M.B., has been appointed Medical Officer to the Helston (Cornwall) Dispensary.

BELL, W. BLAIR, M.D., B.S. Lond., M.R.C.S. Eng., has been appointed Assistant Gynæcological Surgeon to the Royal Infirmary, Liverpool.

BULLKID, EDGAR G., M.D., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

COOMBS, CAREY, M.D., B.S. Lond., has been appointed Honorary Physician to Out-patients, Royal Hospital for Sick Children and Women, Bristol.

DANIEL, PETER L., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Assistant Surgeon to Charing Cross Hospital.

EASON, R. L., M.D., M.S. Lond., has been appointed Assistant Ophthalmic Surgeon to Guy's Hospital.

FOX, JOHN ALFRED, L.R.C.P. Lond., L.R.C.P. & S. Edin., L.F.P.S. Glasg., L.S.A. Lond., has been appointed *pro tem.* Medical Officer for the Marazion District of the Penzance Union.

HALL, OCTAVIUS, L.R.C.P. & S. Edin., L.F.P.S. Glasg., D.P.H. R.C.P.S. Irel., has been appointed Medical Officer of Health of Devonport.

MAYNARD, F. P., Major, I.M.S., has been appointed to act as Ophthalmic Surgeon and Professor of Ophthalmic Surgery in the Medical College, Calcutta.

MUDD, F. B., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Johannesburg Hospital.

QUEELY, J. E. ST. GEORGE, L.R.C.P. Irel., L.S.A., has been appointed Medical Officer, Obenemasi G. M., Ashantee, West Africa.

RUTHERFORD, V. H., M.A., M.B. Cantab., has been appointed Medical Officer to the Electrical Light and X Ray Department, St. John's Hospital for Diseases of the Skin.

SAULT, W. W., M.D., C.M., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

YOUNG, ROBERT ARTHUR, M.D., F.R.C.P. Lond., has been appointed Assistant Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BATH ROYAL UNITED HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with board, lodging, and washing.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House Surgeon.

BIRMINGHAM, GRAVELLY HILL, ASTON UNION WORKHOUSE AND COTTAGE HOMES.—Resident Assistant Medical Officer. Salary £120 per annum, with apartments, rations, and washing.

BRITISH HOSPITAL, Buenos Aires.—House Surgeon, unmarried, for three years' contract. Salary £200, £250, and £300, with board, apartments, &c.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £150 per annum, with apartments.

GROCERS' COMPANY.—Two Scholarships for Original Research in Sanitary Science. Value £300 a year.

HARTSHILL, STOKE-UPON TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with apartments, board, and washing.

HASTINGS, ST. LEONARDS AND EAST SUSSEX HOSPITAL.—Assistant House Surgeon for six months. Honorarium 10 guineas, with residence, board, and washing.

KENSINGTON WORKHOUSE AND INFIRMARY, Marloes-road, W.—Second Assistant Resident Medical Officer. Salary £80 per annum, with apartments, board, and washing.

KENT AND CANTERBURY HOSPITAL.—Honorary Physician.

LANCASHIRE COUNTY ASYLUM, Winwick, Warrington.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £350, with apartments, board, attendance, and washing.

LANCASTER, ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

LEEDS, UNIVERSITY OF, FACULTY OF MEDICINE.—Demonstrator of Bacteriology. Salary £150 per annum.

LEICESTER INFIRMARY.—Two Assistant House Surgeons for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

LISCARD, WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL.—House Surgeon, unmarried. Salary £100, with apartments, board, and service.

MACCLESFIELD, CHESHIRE COUNTY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £140, rising to £160, with apartments, board, and washing.

MANCHESTER, VICTORIA UNIVERSITY.—Junior Demonstrator in Physiology. Salary £100, rising to £150 per annum.

METROPOLITAN ASYLUMS BOARD FEVER AND SMALL-POX HOSPITALS.—Assistant Medical Officers, unmarried. Salary £180 per annum, rising to £240, with board, lodging, and washing.

MIDDLESEX HOSPITAL, W.—Emden Research Scholarship for Cancer Investigation, tenable for one year. Value £100.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

RAMSGATE GENERAL HOSPITAL AND THE RAMSGATE AND ST. LAWRENCE DISPENSARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, and attendance.

ROXBURGH DISTRICT ASYLUM, Melrose, N.B.—Assistant Medical Officer. Salary £140 per annum, with board, rooms, &c.

SHEFFIELD, CHILDREN'S HOSPITAL (OUT-PATIENT DEPARTMENT).—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION.—Senior Resident Medical Officer, unmarried. Salary £200 per annum, with board and lodging.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

YORKSHIRE, WEST RIDING COUNTY COUNCIL.—Assistant to County Medical Officer. Salary £250 per annum, rising to £400.

Births, Marriages, and Deaths.

BIRTHS.

BINGHAM.—On July 15th, at Blackwell, Alfreton, Derbyshire, the wife of Frank M. Bingham, M.R.C.S., L.R.C.P., of a daughter.

BOWDEN.—On July 13th, at Bay View, Bincleaves-road, Weymouth, the wife of Fleet-Surgeon Walter Bowden, R.N., D.S.O., of a daughter.

LENDRUM.—On July 18th, at Manchester-street, Werneth, Oldham, the wife of John B. Lendrum, M.D., of a son.

WICKHAM.—On July 9th, at Chernocke House, Fleet, Hants, the wife of Gilbert H. Wickham, M.B., of a son.

MARRIAGE.

SHAW—WYATT.—On July 12th, at St. Mary's, Porchester, by the brother of the bride, Arthur Hemans Plows Shaw, M.R.C.S. Eng., L.R.C.P. Lond., to Mabel Agnes, second daughter of the late Francis W. Wyatt and of Mrs. Wyatt, Porchester, Hants.

DEATHS.

GABE.—On July 16th, at Westwood, Ashby-de-la-Zouche, Leicestershire, Grace Winifred, the dearly beloved wife of John Rees Gabe, M.D., M.R.C.S. Eng., of 16, Mecklenburgh-square, London, W.C.

ROPER.—At Keys House, Napton, Rugby, on the 18th inst., Henry Roper, B.A. Cantab., M.B., B.C., aged 37, youngest son of the late F. C. S. Roper of Palgrave House, Eastbourne. Funeral Friday, 11 A.M., at Napton.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

IMPERTINENT ADVERTISEMENT.

Mr. J. Samuda of Samuda and Co. is an enterprising person who has taken up the fashion of the "follow up" advertisement. The modern advertiser knows well the advantages of "push" and "hustle" and is quite cognisant of that weakness of human nature which makes so many persons unable to resist a proposition which is perpetually placed before them. More than this, if the proposition is worded so that it appears to be a purely personal matter it is still more attractive. We have now before us one of Mr. Samuda's letters, a copy of which has been sent to many medical men and which commences thus:—

"SIR,—

"*Re My Personal and Confidential Proposition.*

"As I cannot trace any reply from you to my letter of June 6th, it occurs to me that you may not have thoroughly understood my proposition."

Mr. Samuda then goes on to say that his directors have determined to make a special offer to medical practitioners distributed throughout the British Isles and the offer is this. Mr. Samuda will supply a medical practitioner with whatever quantity of Avoca cigars No. 6 at 30s. per 100 instead of 45s. All that Mr. Samuda asks in return is that "those gentlemen who accept my offer will, as opportunity arises, recommend the cigars to their friends, provided, of course, that they give positive and absolute satisfaction." But as a further inducement Mr. Samuda proceeds: "I have decided to present free with the first 100 you purchase at the reduced A.D. price a real amber solid gold-mounted cigar tube in Russian leather case. This, of course, is a personal gift from myself." Now we know nothing whatever of the Avoca cigars which may be good or bad. If they are the former, medical men or any other class would be glad to recommend them without being bribed to do so. If they are the latter, it is a most impertinent proposition for Mr. Samuda to offer bribes in the hope that someone will be weak enough to accept them for doing dirty work. We note a P.S. to Mr. Samuda's letter as follows: "All 'Avoca' goods are sent post paid and any not approved after a thorough trial can be returned at my expense." We must confess that we cannot understand what there can be left of a cigar to return after a thorough trial.

SINGULAR DEATH OF A BOY FROM A BLOW.

Major W. B. Arundel, coroner of Pontefract, held an inquest recently at Ackworth upon the body of Arthur Wilson, aged 16 years, a stonemason's apprentice, who met with his death in singular circumstances. The evidence of the boy's friends showed that the deceased and others met a boy named Herbert Gardham, aged 12 years, who had been fishing and who had a rod in his hand. Wilson and Gardham began to quarrel and after Wilson had struck Gardham several times with his fist Gardham retaliated and struck Wilson across the region of the stomach with the fishing-rod. Wilson stood for a second with his hand upon his stomach, then dropped to the ground, and after gasping twice died instantaneously. Mr. R. H. Rigby, who was called immediately, said that he tried artificial respiration for an hour but without avail. He made a post-mortem examination of the body and found all the organs healthy and quite normal. There were no external marks beyond a bruise upon the right shin of about the size of a sixpence. None of the abdominal organs were in the least diseased. Witness was of opinion that death was due to syncope consequent upon the blow. He did not think it was due to excitement. A heavy blow such as might have been given from the fishing-rod produced would probably cause a reflex action from the nerves of the stomach to the nerves of the heart which would cease beating at once and death would be instantaneous. This would especially be the case if the blow were unexpected and the stomach was full of food as was the case. The deceased in the quarrel might have been expecting a blow from the rod but he could not have been expecting it where he got it or the abdominal walls would have become rigid and probably there would have been no evil result. The jury returned a verdict that death was due to syncope consequent upon the blow given by Gardham who, by misadventure and against his will, had caused the death of Wilson. It has long been known that a blow on the abdomen can cause sudden death and yet no gross lesion may be found on opening the abdomen. In such cases as this the fatal result is evidently occasioned by a reflex nervous chain, the blow on the abdomen occasioning reflexly a cessation of the heart beat. The danger of blows upon the abdomen is fully recognised by the pugilistic prohibition of blows "below the belt," but a very simple experiment will serve to demonstrate clearly the point. If the abdomen of a frog be flicked smartly, as by the handle of a scalpel, the heart will be seen to cease its beats suddenly and to resume them after a pause dependent chiefly on the severity of the blow. It can readily be shown that the efferent channel of this reflex arc is the vagus nerve which carries the inhibitory impulses. A similar nervous nexus exists in higher animals between the afferent nerves of the abdominal walls and viscera and the cardio-inhibitory centre in the medulla oblongata.

"ELOCUTIONARY ACROBATISM."

WE publish the following extraordinary letter because it well illustrates the condition of mental muddle and bewilderment into which many mystical-minded people fall when thinking over the achievements of science unaided by a scintilla of scientific knowledge or training.

Montgomerys Hotel, 227, Second-st.,
San Francisco, Cal., June 29th, 1905.

The London LANCET.

Some time since I read of Commission on Cancer and Prince of Wales Decree therefrom. The following described cure of leprosy, puerperal and typhoid fevers, should efface Cancer and all germ diseases. 1st, What is Electricity? Holy Bible says: "His voice is on the waters." Armstrongs Hydro Electric Machine shows escaping steam and water particles are positive, the boiler being negative. Vapor Vesicles ascending in the air explode and collapse into water particles which freeze into ice morsels, abounding above and between the vapor clouds. Holy Bible says: "He maketh Darkness His pavilion round about Him dark waters and thick clouds of the skies. ..... He casteth forth His ice like morsels. ..... He sendeth out His Word and Melteth them." The Lightning Flash melting the ice morsels is The Word of God or the Lord Jesus Christ or Angel of Life. The Earth is the abode of the dead and is negative. This is Melchizedec or The Angel of death.

The Jews had been carried captive into Babylon until Cyrus turned their captivity. Antiochus warred on them, and Tiberus' beast nature was roused by conspiracy of The Patricians. The Jews feared Tiberius would destroy their city and nation. Thus it was a mistaken idea of Patriotism caused the San Hedrin to buy and Judas to sell Jesus Christ. There is no danger of Nebuchadnezzar, Antiochus, or Tiberius Cæsar carry our pulpit, parliament, and Court Captive, that they should have professing Christiandom disciples of Judas Iscariot in buying and selling Christ, and in changing the Magnetic pole to explode and Conflagrate the Globe.

Gospel Luke v. 12, 13, Matthew viii. 14, 15, Christ cured leprosy and fever by touch. In chronicle Clipping 24th ult. attached, Mrs. Williams nearly two months sick of puerperal and typhoid fevers cured by Thunderbolt entering her room. In touching Christ induced a negative charge into the leper and fever sick which destroyed the germs as did the Thunder Bolt to Mrs. Williams. 2nd Kings v., Naaman's leprosy cured by D from Christ through Holy Prophet.

The Valley of Jordan is considerably below Sea Level the air is denser and richer in oxygen. The River falls greatly in its tortuous course. The friction must greatly negatively electrify, and the magnetic Oxygen or Ozone must by churning saturate water and mud. This gives therapeutic force to Jordan which Abana and pharper lack. As in Luke v. 12, 13, Matthew viii. 14, 15, and Mrs. Williams quoted the curative agent of Naaman is Negative Electricity. By the context Naamans case had advanced to ulceration which the ozonized water and mud cured. Sterilized mud is more congenial soil for bacilli than the animal body.

Revelations xxii. 2, 3. The Tree of Life leaves of which are for healing of the nations may be Paw-Paw to efface all germ diseases from man and beast by digesting the Germs or microbes.

Thus may leprosy, plague, tuberculosis, cancer, and all germ diseases be eradicated until The Law of Life Testimony and Gospel be learned and obeyed by Clergy, people and rulers, rather than wicked Elocutionary acrobatism Revelations xvi. 13.

Very respectfully,
MICHAEL CAHILL.

NOTE.—Radium seems to be a negative storage battery through which the positive vapor or magnetic oxygen induces a weak current not powerful enough to cure.

HEALTHY COSTUME FOR GIRLS.

To the Editors of THE LANCET.

SIRS,—I have a daughter between 14 and 15 years of age and do not want her to wear corsets. I should be obliged if any of your readers would tell me where I could get information as to the best (healthiest) way of clothing her.

I am, Sirs, yours faithfully,
July 17th, 1905. B. A.

THE LATEST QUACKERY.

South Africa, if we may judge from the advertisements which appear in the local newspapers, is an even happier hunting ground for quacks than are these islands. The latest dodge is a nostrum called "Sacco" which is "run" by Stevens and Co., whose headquarters are in St. George's-street, Cape Town. "Though it has been in existence scarcely a year," to quote the circular, there is nothing particularly new about it. We learn that "about seven years ago an Englishman travelling in a remote part of South Africa became cognisant of some remarkable cures effected by a native in cases of consumption and kindred diseases which affect more particularly the pulmonary organs. The successful treatment by what appeared primitive means so impressed the Englishman (who is now one of the proprietors of Sacco) that he was constrained to test its curative powers." Then follow the usual statements about the wonderful efficacy of "Sacco" and remarks about the conscientious beliefs of the proprietors. We have heard all this before. Sometimes the drug has been discovered in North America among the Red Indians, sometimes, as in the case of "Corazza," in Mexico and we fully expect one day to see some enterprising quack bring out a remedy, the receipt for which has been discovered on the top of Ararat, having been left behind by Noah. The usual testimonials are attached and also, as usual, we cannot find any of the London addresses given in the Post Office Directory. According to the conscientious proprietors "*This* preparation has never been known to fail to *Perfectly* cure any case of *Consumption, Harmorrhage, or Asthma.* ..... We claim that if a person has half of his or her lungs left we can effect a permanent cure, providing, of course, the patient does his or her share by keeping to our directions." We have no hesitation in saying that the statements in this circular are wicked perversions of the truth and Stevens and Co. have had the impertinence to send it to sundry medical men, asking them to give the nostrum a trial. It is cruel and immoral to raise false hopes in the minds of sufferers from tuberculosis. Stevens and Co., however, are no worse than hundred of other quacks and we are still waiting patiently for the law to be amended, so that such heartless swindles may be put an end to.

A NURSE-INSPECTOR OF SCHOOLS.

To the Editors of THE LANCET.

SIRS,—I call your attention to the following paragraph from to-day's *Western Mail* (Cardiff):—

"A few months ago the executive of the Barry District Nursing Association placed at the disposal of the local education authority for a period the services of a nurse to visit periodically the schools of the town and examine the children for minor injuries and ailments. It is understood that a recommendation will now be made to the education authority to appoint a schools nurse at a salary of £80 a year, such appointment to be made being and under the control (like the members of the teaching staff) of the education authority and not the Nursing Association."

This is putting the nurse in the position of a qualified medical practitioner and placing a premium on unqualified practice. If a nurse will "visit ..... and examine for minor injuries and ailments" she will also be emboldened to prescribe and dispense, &c. So many are the irregular rivals to medicine that many medical men must be sorry that they went to the trouble and expense of getting qualified.

I am, Sirs, yours faithfully,
July 17th, 1905. L.R.C.S., &c.

*** The Barry District Nursing Association does not instruct the nurse to treat the cases; presumably she is only to inspect the children with the view of preventing the existence of communicable diseases or physical defects being overlooked. The master or mistress of the school ought to be able to do some of this work. The pathological condition being detected, the medical man ought to be summoned. All this work could be done by medical men if schools were carefully grouped for inspection and the medical inspectors were properly paid.—ED. L.

A GUIDE TO LEICESTER.

WE have received a copy of a Guide to Leicester and Neighbourhood, by Mr. G. Clarke Nuttall, B.Sc., and published by Mr. Edward Sharlow, St. Martin's, Leicester. A copy of this guide is to be presented to every member of the British Medical Association on registering his name. Leicester has a most interesting history and there are apparently a good many of its old buildings left. The guide will certainly be useful to visitors.

FLANNELETTE.

"A SURGEON" writes:—

Some months back you published a correspondence and added your own observations on the various processes for reducing or preventing the inflammability of flannelette and thus the number of severe burns arising from this cause. I send herewith a packet of a powder called "Boram"; it is claimed that flannelette dipped in a solution of this is rendered fire-resisting. I send also two pieces of a cheap flannelette costing 2½d. a yard, one piece as bought, the other treated with "Boram." You will see that the latter will not burn at all: it merely chars. It is in this respect better than flannel itself, and, in fact, perfect.

As to cost, "Boram" is sold retail in packets costing 1s. 6d. each. The contents are to be dissolved in a gallon of water and the solution thus made will render fire-resisting 12 square yards of canvas or 20 square yards of muslin; therefore it costs somewhere about 1d. a yard to fireproof flannelette. Unfortunately, the salt being soluble, it is necessary to redip the garment each time it is washed; it is, however, a great gain that, though not without trouble and expense, flannelette can be rendered quite incombustible.

We have examined a specimen of "Boram" and our analysis easily revealed its composition. We are able to confirm what "A Surgeon" says in regard to a solution of this salt rendering flannelette practically non-inflammable. The salt is prepared by the Fire Resisting Corporation, Limited, of Townmead-road, Fulham, London, S.W.

THE UNQUALIFIED ASSISTANT.

To the Editors of THE LANCET.

SIRS,—Supposing a case like the following occurred, what is your opinion? Also that of your readers? A practitioner employs a lady housekeeper who also acts as assistant, surgery attendant, and collector. She receives patients and prescribes for them, and is preferred in many cases to the medical man. Under the new Midwives Act she has obtained a certificate as a midwife. In the

surgery is exhibited a large card as follows:—"Midwifery attended by Miss ——, L.A., &c. Fee 10/6."

I am, Sirs, yours faithfully,

A STRUGGLING PRACTITIONER.

*** We have frequently pointed out that, to some extent, the Midwives Act legitimises for women the post of unqualified assistants, a post which the General Medical Council has decided to suppress in respect of men. As a certificated midwife Miss ——'s duties are defined (more or less) by law and if she goes outside them she can be reported to the Midwives Board. As a surgery attendant and dispenser she can assist her employer as long as she acts under his supervision, but if, being unqualified, she visits patients independently and prescribes for them her employer can be punished by the General Medical Council—ED. L.

A. B. C.—We have seen that paragraph about the hospital dance, the kind-hearted constable, and the titled surgeon many times before. Its details are apt to vary, but the constable is always kind-hearted and the surgeon is always titled, the adjectives in some way or other being supposed to add to the horror of the yarn. That "the facts are too circumstantial to be disputed" is the most silly assertion of all. Nothing less circumstantial has ever gone the rounds of a credulous press.

Anon.—Will our anonymous correspondent who sent us a bill from Morecambe communicate with us (giving his name). We cannot comment upon the matter unless we know what actually happened. The bill only states what is going to happen.

Inquirens.—We have no information to give on the matter of the study of medical electricity apart from study for the medical profession.

E. P.—The man is only the usual mendacious quack.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.).

TUESDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (26th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.).

THURSDAY (27th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.).

FRIDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (29th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1905, which was completed with the issue of June 24th, and the Title-page to the Volume, were given in THE LANCET of July 1st.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1905 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 20th, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
July 14	30·19	W.	...	131	86	65	66	71	Fine
,, 15	30·06	W.	...	117	79	65	64	67	Overcast
,, 16	29·96	S.W.	0·10	115	68	59	57	60	Cloudy
,, 17	30·01	W.	0·01	122	74	57	60	65	Fine
,, 18	29·95	S.W.	...	125	74	60	60	62	Overcast
,, 19	30·25	N.E.	...	122	75	58	56	65	Fine
,, 20	30·15	S.W.	...	124	79	57	59	66	Fine

During the week marked copies of the following newspapers have been received:—*Yorkshire Post, Daily Chronicle, Morning Leader, Yorkshire Daily Observer, Liverpool Courier, Southern Press (Scotland), Globe, Daily News, Westminster Gazette, Irish Times, Spectator, Essex Observer, Literary Digest (New York), Scientific American, South Wales Daily Echo, Cambridge Chronicle, Eastern Daily Press, Western Mail (Cardiff), Clinical Journal, Morning Advertiser, &c.*

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Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

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Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements and Situations Vacant	Ditto	0 4 6
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